

DECEMBER 1958

CCJ

COMMERCIAL CAR JOURNAL

A CHILTON PUBLICATION

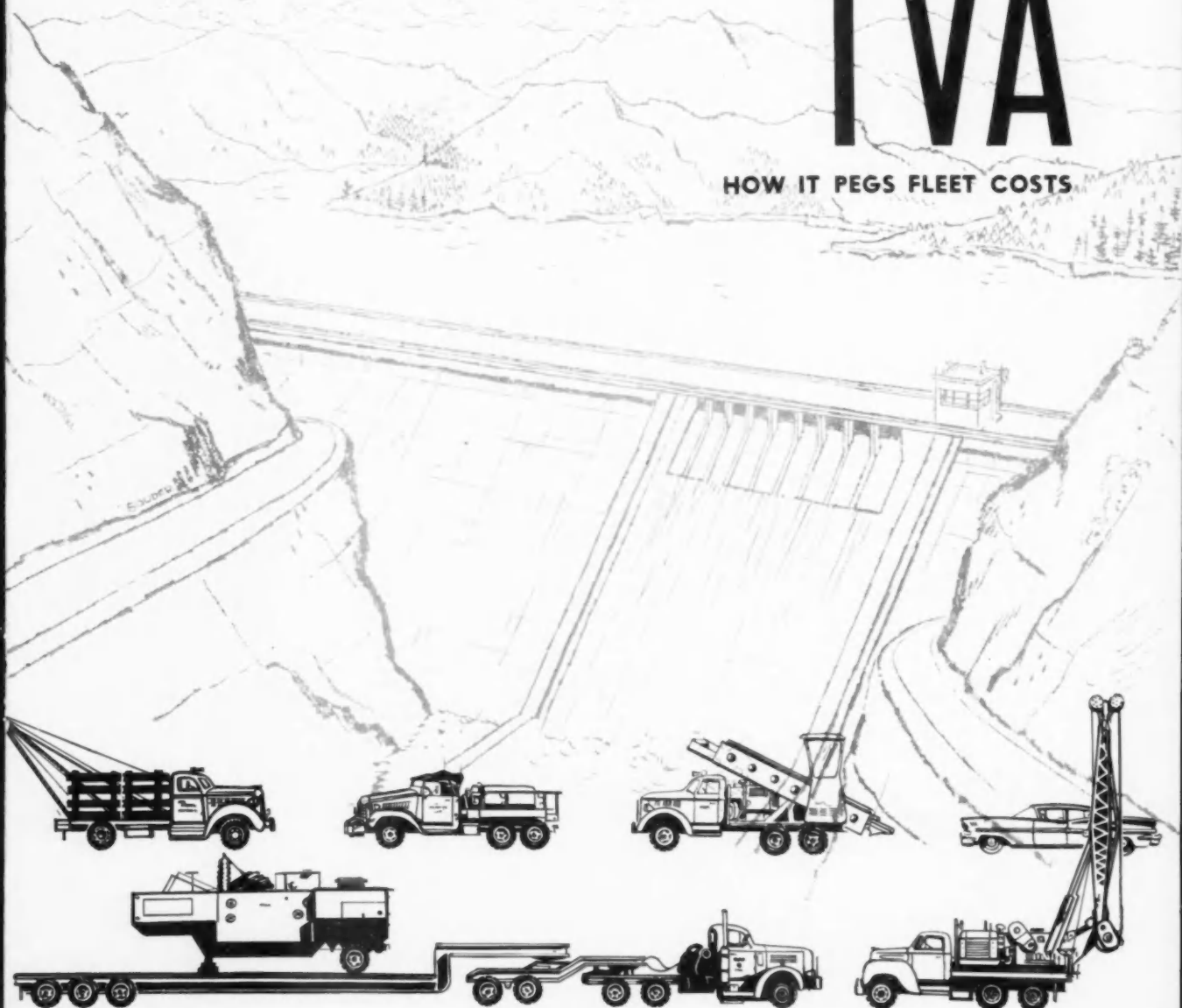
CONSTRUCTION SECTION

follows page 84

THE MAGAZINE FOR TRUCK
AND BUS FLEET OPERATORS

TVA

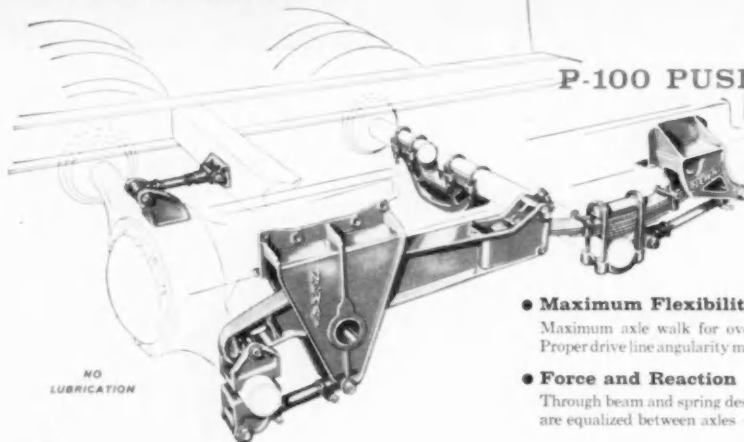
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Two **NEW**AYS to Increase Profits

This combination cuts costs at both ends! Both are engineered to reduce useless dead weight, reduce maintenance on trucks and trailers, reduce trailer and cargo damage.



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Through beam and spring design all brake forces and drive torque reactions are equalized between axles — no hopping or chatter.

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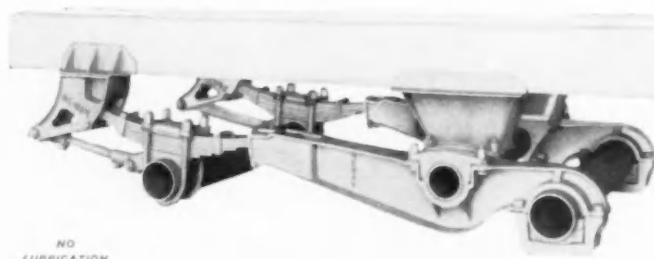
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Sidesway controlled through fixed trunion and rubber mounted beams. Driver maintains full control in the turns. **MAINTAINS SPEED FOR FAST SCHEDULES.**

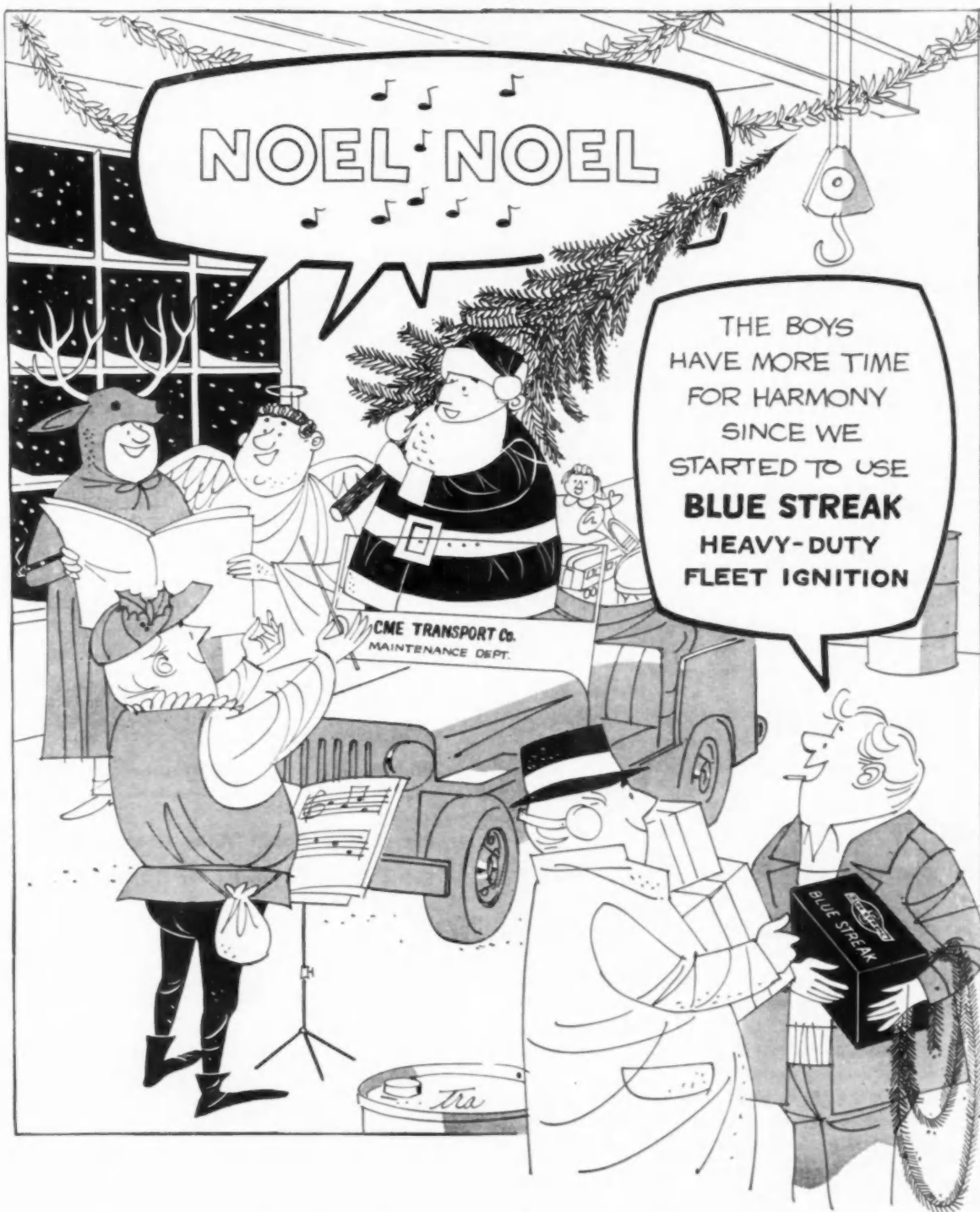


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COMMERCIAL CAR

—December 1958 • Vol. 96 • No. 4—

FEATURING



THIS IS TVA

Report in depth by
CCJ's Mobile Editorial Team

Vehicle Replacement
Fleet Cost Control
Preventive Maintenance
Mechanic Incentive
Accident Prevention
Construction Equipment

If there ever was a fleet that's got something for everybody, TVA's fleet is it. That's what COMMERCIAL CAR JOURNAL's Mobile Editorial Team discovered when it dug in to get the facts for itself . . . to bring you this second in a series of exclusive Reports in Depth on the nation's leading fleets.

There are 796 fleet passenger cars, a sizeable group of construction equipment, and plenty of heavy-duty trucks and trailers in its over 2800-vehicle fleet. It has seven shops—large and small, and its vehicles go all over the state of Tennessee and parts of six neighboring states.

The whole story begins on page 69

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Consolidated Speeds Truck Weighing . . 25

Transit Management and Maintenance . . 102

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Brakes: The Problem & Two Solutions . . 106

From Society of Automotive Engineers' Transportation meeting, here are the facts on two new brakes. From Rockwell-Standard—a floating, two-shoe, 15-in. model. From Wagner Electric—a liquid-cooled, disc brake

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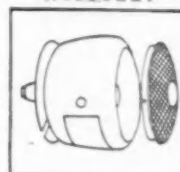
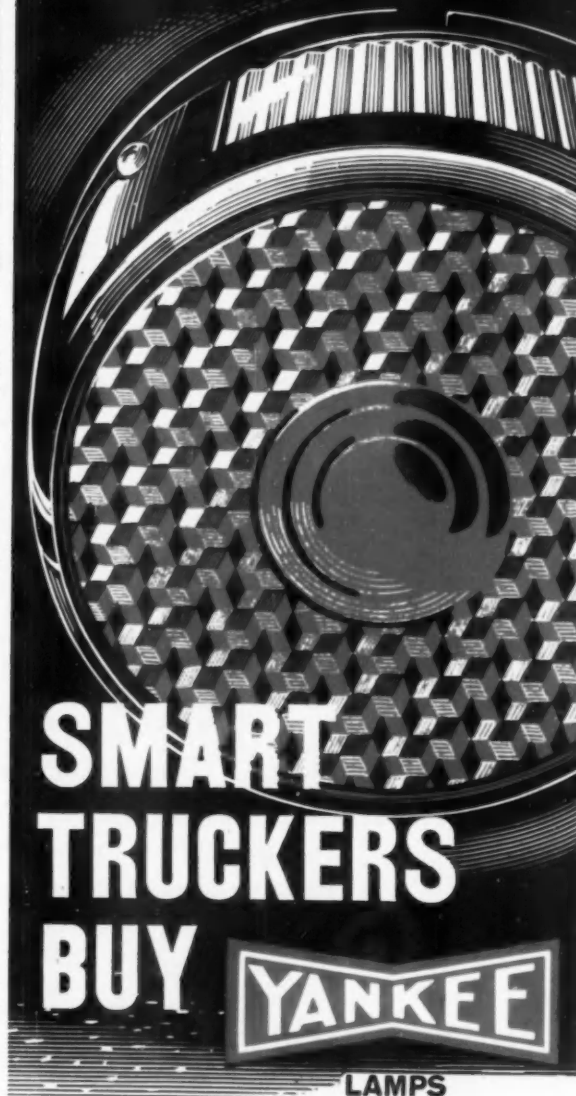
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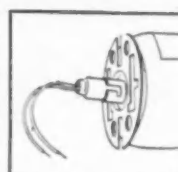
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COMMERCIAL CAR JOURNAL, December, 1958

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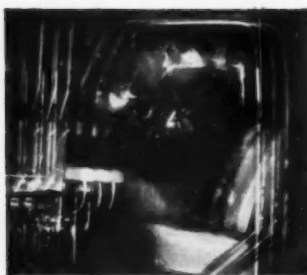


YANKEE: lamps • mirrors • reflectors • signals • emergency lighting

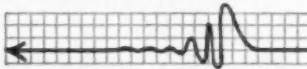


"That's no fish story, Myrtle—Joe's just telling how dragged-out he felt before full-depth Airfoam truck seats!"

This shakedown costs more than you think:



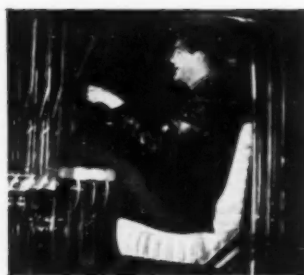
Spring-and-Padding Truck Seat in Action—multiple-exposure photo shows how such seats amplify drags and jars of normal truck operation. Also, how time-lag in spring action bounces driver UP as controls come DOWN. Driver's reflexes attempt constant compensation during run, resulting in cramped muscles, frazzled nerves, weariness and inefficiency. Even the cushions wear out faster!



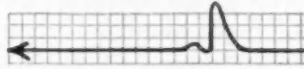
Actual "Damping Curve" Chart—showing how spring-and-padding truck seat bounces repeatedly after bumps.

Goodyear, Engineered Products Dept., Akron 16, Ohio

AIRFOAM helps drivers, cuts repairs, replacements:



Full-Depth AIRFOAM Truck Seat in Action—multiple-exposure photo shows how over half-a-million fresh-air cushions in each cubic inch of AIRFOAM muffle and absorb drags, jars and jounces. AIRFOAM, being all one piece, also distributes driver's weight, helps him ride with the controls. Result: fresher, happier, more efficient drivers—cushions that don't sag, snag or break down.



Actual "Damping Curve" Chart—showing how AIRFOAM truck seat bounces less and quickly returns to normal after bumps.



You can specify Full-Depth **AIRFOAM** seats and backs as original equipment on any truck!

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ONLY BY

GOOD YEAR

The World's Finest, Most Modern Cushioning

Airfoam—T.M. The Goodyear Tire & Rubber Company Akron, Ohio



COMMERCIAL CAR JOURNAL, December, 1958

THE OVERLOAD

E D I T O R I A L C O M M E N T

Are You an Average Guy?

HAROLD L. SMITH came to our town last month. There was no special fanfare, no Mayor's committee of welcome. But after his visit a lot of folks are thinking deeply about the problems of highway safety.

The story begins about 1946, when Harold Smith founded the Institute of Driver Behaviour in Detroit. It was dedicated to making "people" better drivers. But Smith soon found that "people" meant 79 million licensed drivers. He couldn't reach them all, so he started concentrating on fleets. We reported on the fantastic results he achieved in one of them—Hess Cartage Co. of Detroit—in our December, 1957, issue.

Since then Mr. Smith has been sponsored full time by the Ford Motor Co. He offers a series of 40-hour, one-week courses to fleet safety directors and driver trainers. Ford foots the bill, you get the course free.

In brief outline the Smith System has a basic premise and a basic plan.

The premise: The nation's 79 million drivers produce 10 million accidents a year. One per cent of these drivers are the habitual offenders, accounting for 15 per cent of all accidents. Fortunately, they are the easiest to reach through proper detection and enforcement procedure.

Another three per cent are the experts—driving a lifetime without an accident. That leaves 96 per cent of all drivers accounting for 85 per cent of all accidents. Their batting average—and get this—is one accident every seven years. There are a lot of us in this category and we're the guys that Smith is after.

The plan: Teach these average Joes to use their *eyes* properly with these basic rules:

1. Aim eyes high in steering
2. Get the big picture
3. Keep your eyes moving
4. Leave yourself an out
5. Make sure "the other guy" sees you.

Just remembering these five rules can make anyone a better driver. But the course itself does a lot more. In our book, it's a chance you better not miss.

And here's a parting thought. Several of us at the orientation lecture asked Mr. Smith how he got into this business in the first place. His answer was loaded.

For 18 months during World War II, Smith was on a Navy ship. Like all good sailors he never volunteered for anything until the day came to go ashore at Guam. It was long after the invasion and Guam had become the largest Naval supply base in the Pacific. Three miles inland he came to this sign:

"Drive carefully—383 of your buddies have been killed or seriously injured here in traffic accidents since the invasion."

Smith formed a mental image of two communications.

The first was a letter home: "Hi, mom. I've been through Guadalcanal, Tarawa and Saipan. Now I'm 1000 miles from the enemy. For me the war is over."

A few days later came a telegram from the war department to the same mother: "We regret to inform you that your son has been killed in a *traffic accident*."

That did it. Smith got his discharge, headed for home. He's been working for traffic safety ever since.

Bart Rawson
Editor



Here's where you

...and here's where you can get it:
Texaco D-303 Motor Oil HD

Texaco D-303 Motor Oil HD puts full engine power to work for you because it keeps engine compression high and promotes complete fuel combustion. It keeps piston rings free to minimize blow-by, so the engine burns fuel the way it was meant to: for full power.

You get these advantages because Texaco D-303 Motor Oil HD has full detergent and dis-

persive properties. Contaminants and deposits stay in the oil instead of sticking to valves and rings. The engine stays "like new" longer, so that it uses less fuel per mile, runs more miles between overhauls. Texaco D-303 Motor Oil HD is refined especially for rugged service in heavy duty diesel or gasoline truck engines, cuts maintenance costs way down.



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There is a full line of Texaco Lubricants for your operation, wherever you are. A Texaco Lubrication Engineer will gladly help you select the proper ones. Just call the nearest of the more than 2,000 Texaco Distributing Plants in the 48 States—or write:

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*Another
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B.F. Goodrich Tubeless tires enable oil hauler to carry more pay load

Barlow's Service, Inc., of Denver, Colo., hauls oil products 3 million miles a year. Trucks often work round-the-clock in stop and go city driving as well as on long, mountain trips. In an effort to get better tire service, Barlow's switched to B.F. Goodrich Traction Express Tubeless tires with FLEX-RITE NYLON cord body. Results: 15% more mileage, cooler running and more pay load!

The inner liner that replaces the tube in Traction Express Tubeless tires prevents sudden flats, guards against bruise-blowouts. This B.F. Goodrich Tubeless tire saves weight over conventional wheel assemblies—you carry more pay load. It eliminates tube and flap trouble, defies tire-killing heat build-up, cuts maintenance costs. FLEX-RITE NYLON withstands double the impact of ordinary materials, resists heat blowouts and flex breaks. Traction Express Tubeless tires can be retreaded over and over!

See the complete line of B.F. Goodrich Tubeless truck tires at your dealer today. Find out how they can help you get longer tire service at lower cost. B.F. Goodrich Tire Co., A Division of The B.F. Goodrich Co., Akron 18, Ohio.

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**Specify B.F. Goodrich Tubeless tires when
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is listed under Tires in the
Yellow Pages of your phone book*

B.F. Goodrich *tubeless truck tires*



AT YOUR SERVICE

TIMELY NOTES ON MAINTENANCE AND OPERATION Edited by Ed Shea, Technical Editor

Check That Heat Riser Valve

A HEAT RISER control or damper valve is incorporated into the exhaust manifold. It deflects hot exhaust gases around the cold intake manifold during engine warm-up. Proper operation of this control results in good performance and economy.

A valve frozen in the open position means slow warm-up, causing rich mixture and stalling. In some cases crankcase dilution may result.

When stuck in the closed position exhaust gases will be blocked and cause exhaust valve burning and poor high speed operation.

A thermostatic coil spring opens the valve as the engine warms-up. To see if valve is working as it should, rotate the counterweight on the heat riser shaft by hand. It should turn easily with just a slight manual pressure and return to its original position quickly when released.

Another test is to start the engine with a cold exhaust manifold and kick the throttle quickly. If the counter weight moves, valve can be considered okay. A rattling or buzzing noise during this test indicates shaft bushings are worn. If investigation reveals the shaft is frozen and not broken, apply a good commercial solvent to help dissolve the binding deposits. Many mechanics use a small hammer and gently tap the shaft on each end while applying the solvent.

Stop Annoying Gasoline Spray

ENGINE JOBS, valve jobs and others require removing the carburetor. Some of these jobs require turning the engine over from time to time. With the carburetor removed, gasoline spraying over the engine from the open gas line is a hazard. To overcome this, take an old carburetor needle seat, seal the hole with solder and install on open fuel line.

Check Ford Carburetor Choke

FORD REPORTS that on some 1958 Super Duty V-8 engines, interference may occur between the carburetor choke plate and air cleaner stud boss when the engine backfires with the choke closed. Force of the backfire unseats the choke plate, causing it to move downward and touch on the edge of air cleaner boss, thus

the choke is inoperative. Here's how to trouble shoot the problem:

With the choke completely closed, clearance between the air cleaner stud boss and the circular cut out in the choke plate should be at least 1/16 in. Should the clearance be less than 1/16 in., remove the choke plate and enlarge the circular cut out with a round file to obtain the required clearance.

Coolant Loss on Dodge

A RECENT Dodge Service Bulletin says that in mid-1958 the "L" series, single rocker, 315-cu in. engine used cap screws in place of studs to hold the exhaust manifold in place. Since the cap screws extend into the water jacket, they are sealed with a non-hardening type gasket cement. Should a cap screw become loose, it allows water to leak past the threads. If no leak is visible on the outside of manifold, it is possible for water to be leaking inside the manifold and going through the exhaust system and out the tail pipe.

Cap screws should be checked for tightness. If removed, recoat them with non-hardening gasket cement and replace. Water leaks at the exhaust manifold bolts are extremely hard to find because the coolant evaporates rapidly. Therefore, it is advisable to put some water soluble dye in the cooling system to help in finding a leak.

What Is Real Tire Cost?

LAST MONTH we received a welcome letter from Bob Douglas, well known maintenance director for Eastern Express, Inc. His ideas are worth thinking about. We suspect many other large carriers will agree with his viewpoint. In part the letter said:

"The series of tire articles in your September issue were certainly informative, interesting and well-presented. There are many things that effect tire cost per mile, and there are many things which can be accomplished that will reflect lesser cost. However, some of these things are impractical in a fleet operation. If it will cost more to effect the saving—which it does in many cases, we just do not do it.

(TURN TO PAGE 20, PLEASE)

Do the brake parts YOU use fit?...



Wagner Lockheed

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LOCKHEED HYDRAULIC BRAKE PARTS, FLUID and BRAKE LINING • AIR HORNS • AIR BRAKES • TACHOGRAPHS

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Never underestimate the importance of engineered quality—because engineered quality, such as you get in Wagner Lockheed Brake Parts, provides the right fit and correct performance of the parts... and the ease of installation of parts that fit right saves you time and labor in servicing brakes.

ENGINEERED QUALITY of Wagner Products begins with the design when quality of material and close tolerance of manufacture are specified. Metal parts specifications include casting of dense, non-porous structure that will machine to a high mirror finish. Rubber parts must be of high temperature resistant compound to provide sustained resilience. In brake fluid, quality depends upon correct chemical balance of superior ingredients.

Wagner Lockheed Replacement Brake Parts are manufactured by the same machinery in the Wagner factory—to the same specifications—as Wagner parts used as original equipment.

The Wagner Lockheed line of hydraulic brake parts is the most complete on the market. Every make and model of vehicle is covered.



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WP56-3A



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costs go down as mileage goes up

You can have your truck tire economy as simple as 1-2-3 with Lee Super DeLuxe Highway Nylons. These outstanding tires give you 1) long original mileage; 2) extra recaps; and 3) lowest possible cost per mile. The three big advantages that add up to sure savings.

Not just nylon, but Lee Super-Tensile Nylon, goes into the construction of these tires. This tough cord provides the ultimate protection against the impact bruises, blowouts and moisture damage that take their toll of tires built with ordinary cord. And, during the Lee Super-Tensile manufacturing process, the cord is also treated with Double-Dip Flexlok, the super-adhesive that reduces the effects of heat and flexing and makes cord separation from the bond virtually impossible.

You get additional assurance of extra mileage with the wide, flat tread—made of the best type of smoked sheet natural rubber. Other Lee improvements in the tread design result in better traction and cooler running.

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The Lee Super DeLuxe Highway. Whatever your truck tire needs, there's a Lee that's *right* for the job.



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Conshohocken, Pa.

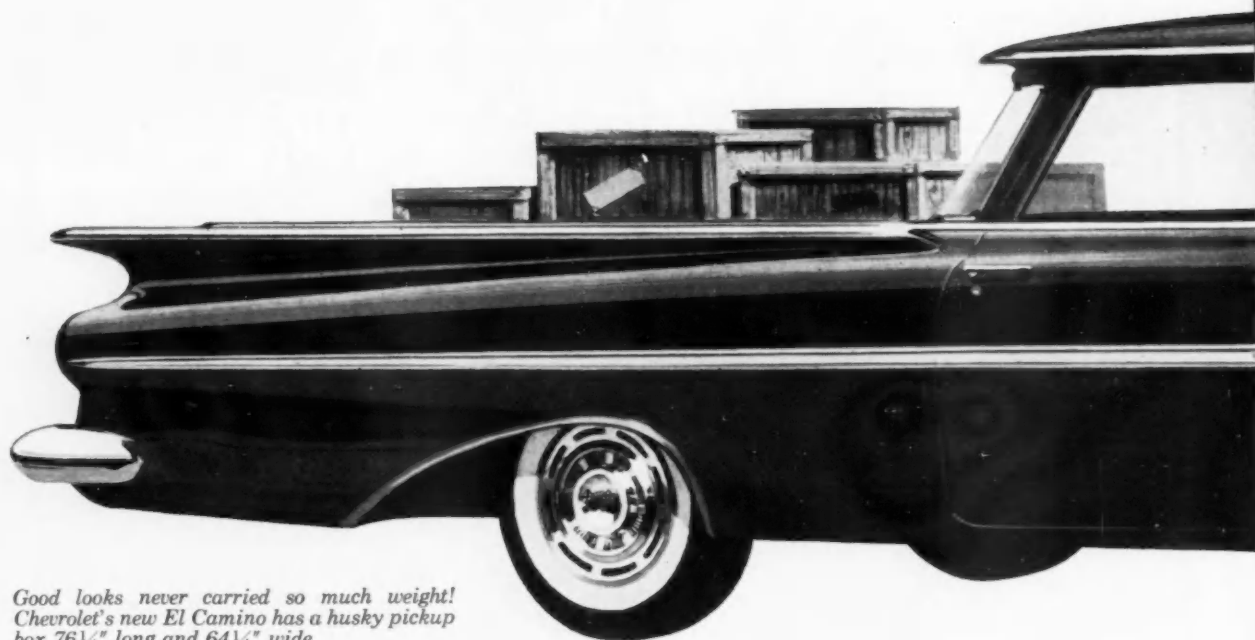
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Good looks never carried so much weight! Chevrolet's new El Camino has a husky pickup box 76 $\frac{1}{4}$ " long and 64 $\frac{1}{4}$ " wide.



Here's the toughest built big truck in the business—a compact 1959 Series 90 Chevrolet that pulls maximum-length trailers easily.



This new 1959 Chevrolet Series 70 L.C.F. model offers special advantages! Compactness enables it to pull long semi-trailers; it's more maneuverable, too.

THE BEST YET OF THE BEST SELLERS...



CHEVROLET

TASK-FORCE 59 TRUCKS



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Chevy's serving up something special for '59—the soundest, savingest, sharpest looking line of haulers that ever hustled a load! For evidence, consider the dazzling all-new El Camino. It combines the slimlined beauty of the '59 Chevrolet passenger car with the ability to handle man-size hauling jobs!

Or take the pickups of Task-Force 59—a dozen big-bodied beauties that can fill the bill on scores of jobs with five handsome Fleetside models, seven handy

Stepside pickups, including 4-wheel drive models. A new edition of the famous Thriftmaster 6, standard in light-duty models, delivers up to 10% greater fuel economy—up to 20% with new maximum economy option.*

And the picture's just as bright in the medium- and heavy-duty classes. Here, you'll find V8 power that's new and tougher built, too . . . with axles, transmissions, frames and brakes that are refined and improved to whip the toughest runs without a wheeze or whimper.

Whether your truck is a light-, medium-, or heavy-duty job, *these* are trucks you've got to see! They're on display right now at your Chevy dealer's. . . Chevrolet Division of General Motors, Detroit 2, Michigan.

*Optional at extra cost.

NEW MIGHT, NEW MODELS, NEW MONEY-SAVING POWER!



A WEDDING WITHOUT A BOUQUET?



The bride has every right to complain, and so have many other irate customers who are waiting for flowers that can't be delivered on time. Everybody loses when a truck battery fails—that's why it pays to protect your fleet and your customers with Delco Extra-Duty batteries. Backed by General Motors and Delco, this battery has what it takes, and proved it during gruelling endurance tests at the GM Proving Grounds. And out on the road where cost is as important as dependability, truckers have found that the Delco Extra-Duty provides the lowest cost per mile of operation. What more could you ask for in a truck battery? Delco has more. A long term warranty that's good all over the U.S. and Canada. So why take a chance? Protect profits by choosing Delco, wet or dry charge, the No. 1 battery in America.

QUALITY BUILT BY DELCO-REMY

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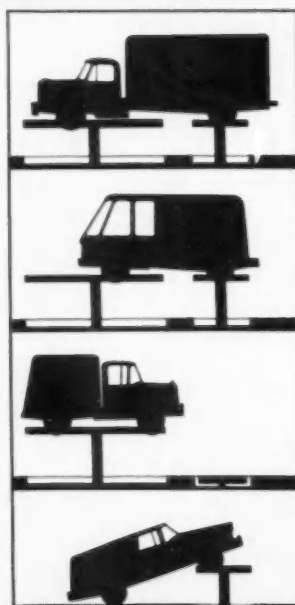


ON CBS TV— "HIGH ADVENTURE WITH LOWELL THOMAS." ON CBS RADIO— LOWELL THOMAS NEWSCAST

PROFITS DROP WITH TRUCKS IN THE SHOP



... KEEP YOUR TRUCKS ON THE ROAD



WITH A GLOBE 2-POST HEAVY-DUTY MODEL SLR HOIST

Trucks make money only when they are on the road. Prolonged lay-overs for repairs are costly . . . cut revenue producing travel time.

With a Globe SLR Heavy-Duty Truck Hoist, you can make major repairs faster and develop an efficient preventive maintenance schedule to eliminate these breakdowns. Designed for fleet shops, garages and repair shops servicing both commercial and passenger vehicles, this free-wheel Hoist provides immediate accessibility for replacing those hard-to-reach underbody parts.

It's versatile too! Posts can be operated independently for servicing two light trucks or passenger cars at the same time. Long rail is used for raising short wheelbase cars while rear saddle doubles as a front end Hoist. Cylinders can be located to provide for any wheelbase accommodation range up to 260".

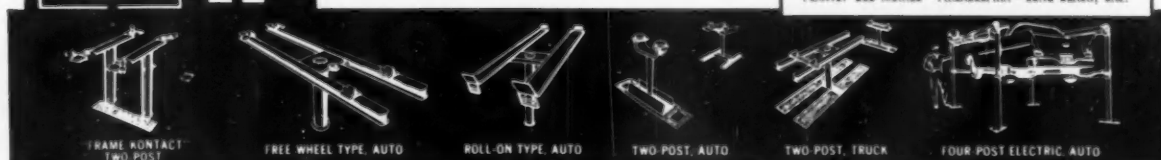
Protect your investment and "up" your profits by installing a Globe SLR Heavy-Duty Truck Hoist now! For complete information, write to: GLOBE HOIST COMPANY, EAST MERMAID LANE AT QUEEN STREET, PHILADELPHIA 18, PENNA.

GLOBE

THE BEST LIFT

TRUCK HOISTS

PLANTS: DES MOINES—PHILADELPHIA—LONG BEACH, CAL.



"With us, a sideslip could



Buy and Specify Tubeless or Tube-Type



GOOD YEAR
MORE TONS ARE HAULED ON

be playing with dynamite!

But we haven't had sideslip or jackknife troubles since switching to HI-MILER CROSS-RIB."

**How Ashworth Transfer Co.,
Salt Lake City, Utah, licked jackknife
problems—gained longer tread-life:**

"Our 280 vehicles haul practically anything. Even a 167-ton barge for atomic submarines is all in our day's work.

"High explosives, too — we specialize in them," continues Vice President Glen Ashworth. "And with such cargoes over our tough mountain runs, a bad sideslip or jackknife could make headlines the driver would never read!"

"But we haven't had a bad sideslip or any jackknife since we switched to Cross-Rib," observes Ashworth Yard Manager Everett Taylor. "Not even on the Continental Divide — where a tire failure would be disastrous.

"And that's not all. Uncle Sam is fussy about explosives hauling—makes rigorous depot checks. In the 2 years before Cross-Rib, we had 50 to 60 loads rejected because of tire wear, tread cracks, bruises and the like. *But in our year with*

Cross-Rib, not a load has been turned down because of tires!

"That, alone, makes the Cross-Rib worth while—and we're way ahead in other ways, too:

"Our particular operation hasn't had a Cross-Rib blowout, bruise-break or tread split—even on runs more off-road than on!

"We're hanging up tread-mileage records, too. Cross-Ribs are running 100,000 miles and more—and plenty of tread still on them! On our operation, that was formerly unheard of.

"No matter how you look at it—traction, safety, long tread wear or low cost-per-mile—I say Cross-Rib HAS it!"

Ashworth Transfer Company has pioneered intermountain transportation since 1913. It serves Utah, Idaho, Montana, Colorado, Wyoming, Arizona and New Mexico — and connects with lines serving all other points. For names of other good operations gone Cross-Rib, contact your Goodyear dealer or Goodyear, Truck Tire Dept., Akron 16, Ohio.

Watch "Goodyear Theater" on TV—every other Monday, 9:30 P.M., E.S.T.

HI-MILER CROSS-RIB EXTRA RUBBER plus TRIPLE-TOUGH



3-T

NYLON CORD

TEMPERED LIKE STEEL! Like steel, tire cord must be tempered to be tough. Goodyear's exclusive 3-T process, involving Tension, Temperature and Time, triple-temper cord to make it TRIPLE-TOUGH — to give you longer tire life, lower cost-per-mile!



TRUCK TIRES

GOODYEAR TRUCK TIRES THAN ON ANY OTHER KIND

1

TRAILMOBILE INC.



the

P-64

An all steel van utilizing Trailmobile's exclusive Integral Post construction. This exceptionally rugged design features high capacity, low weight, practical values at low cost.

CCJ AT YOUR SERVICE

Continued from Page 9

"For instance, checking tire pressures every day is burdensome, costly and accomplishes very little. If the tires are "bump" tested prior to each trip, soft tires are detected and changed. We feel that an actual air pressure test every two weeks is sufficient. In fact, when you check too often you sometimes get other difficulties such as unseated valve cores, lost valve caps and bad cap seals.

"Similarly, checking for foreign objects in a tire can result in more labor cost than a savings. If the job is not done thoroughly the time required for a minor inspection is wasted. It is our experience that the labor hours involved here cost more than one lost tire at infrequent intervals. We inspect tires as a part of our 3000-mile preventive maintenance inspection.

"Mating of duals is another expensive job. The labor involved is not a matter of minutes, but hours. We check for mating at the 3000-mile inspection. Even then we don't change them unless the difference exceeds recommended tolerances by a considerable extent.

"Some people advocate removing front tires after 35 per cent tread wear. They can be safely operated up to 75 per cent tread wear. Much depends on front end alignment. Some trucks have much better front ends than others.

"Recapping will always be a problem. Many tires that pass a rigid inspection before they are recapped blow out after several miles of operation. The life factor of a tire carcass revolves around the number of times that carcass has flexed during its service life. But there is no way of counting the flexes. The flex failure point may come during the time of the original tread, or after several retreads. Here again, other factors prevail—such as tire size, air pressure, type of road, loads, rayon, nylon, or steel cords.

"The practice of removing tires for retreading when there is 2/32-in. tread depth remaining is poor practice and will result in higher cost per mile. It may be done as a safety factor to insure that a tire is not allowed to operate too far and become ruined for recapping. There are some tires that have very little under-base, and therefore recapping must be accomplished at this point.

"The average 100-level tire with 2/32-in. tread depth remaining can be regrooved from 4/32 to 5/32 in. and many more safe miles achieved before recapping. In the heavy duty and super tires there is much more tread base. Such tires must be handled differently. If such tires were to be removed for retreading at the time the tread became smooth, all of the additional rubber placed there by the manufacturer in order to secure many thousands of additional miles, and for which there is a charge, would be lost—just thrown away.

"Tubeless tires are still a problem and controversial. Many fleets have had excellent success with them—others not so good. They must be better maintained than the tube tire, and have closer inspection for foreign objects in the tread. They have advantages, and disadvantages.

"Tire costs are always tricky.

When we hear about a cost of \$.0008, we fail to get excited. Investigation usually shows that such costs are based only on the cost of the tire, the retread and possibly section repairs.

"But *actual* tire cost, if they are to reflect an accurate picture, must include *all* related cost. This includes labor charges for repair, changing, mating, handling, road failures (including cost of service truck) and supervision. When you add all of these together the cost is usually something in the order of \$.001 per mile. This is somewhat of a standard.

"Of course, tire size will

also result in a marked cost differential. For example, when we adopted the 10.00 x 20 tire with our first maximum cube vans, we found tire cost increased 25 per cent. As a result, we are going back to 10.00 x 22 tires."

Taping Wires Made Easy

TAPING WIRES or a wire harness under the dash can be a difficult and time consuming job. In many cases, it is not possible to work with both hands under the dash. Here is a way to make the job easier: Take a starter bushing or some similar bushing and make a small roll of tape around it. Now you can retape burnt wires or harness assemblies with one hand very easily.

Ford Changes Wheel Cylinder Size

NINETEEN FIFTY-EIGHT FORD trucks Model Nos. F and B600 have front brake cylinder with 7/8-in. diameter bore. When time comes to replace these, Ford suggests a change in size. Recommendation is a 15/16-in. diameter cylinder. This, says Ford, gives more even braking between front and rear wheels. If you make the change, don't forget both front wheels must be done at same time.

(TURN TO NEXT PAGE, PLEASE)

2

TRAILMOBILE INC.



the
P-68

*An all steel van utilizing
Integral Post construction
reversed to provide a smooth side.
Here is exceptional strength,
low weight and good appearance
at a low, low price.*

3

TRAILMOBILE INC.



the
C-64

*A truly outstanding value
in an aluminum trailer that offers
big cube in a strong,
unusually light design.
New, exposed post side panel
is key to important weight saving.*

CCJ AT YOUR SERVICE

Continued from Page 21

Fleet Passenger Car Trade-In

SAM LEE of Lee Fleet Management, Inc., Cleveland, Ohio, has some interesting comment on whether or not to trade in your passenger car fleet with the dealer or sell it outright. Says Lee . . .

"The question of whether to trade used cars to new car dealers or to sell them outright has divided fleet operators for many years. Most company owned fleets, not having facilities available for the disposal of used cars, have relied entirely on trading them to new car dealers. Leasing companies, on the other hand, have almost always sold their own used cars. This is interesting because it indicates that when a company's only source of income comes from the operation of a fleet of motor vehicles and its profit is determined solely by the prices it gets for used cars, that company will go right out into the used car market and sell its own used cars.

"The trade-in type of deal has taken several forms, each one having its own particular proponents. The old stand-by, of course, is the three bid basis where salesmen are told to get bids from three dealers. Another arrangement is the so-called "net cash difference" type of deal in which a dealer agrees to replace cars on a model for model basis at a predetermined net cash difference figure. Still another arrangement is to place business with new car dealers several months ahead of actual replacement time on a basis of a "sight unseen" appraisal on used cars.

"One of the most peculiar trade-in plans of all is based on some sort of notion that one can get a better deal by paying the dealer more money for his new car so that he will allow more for a used car. This 'You pay me more and I'll allow you more' idea, when carried to extremes, can only result in dealers putting pack upon pack as they did last year until no one knows the true list price of a new car. It was because dealers packed prices so ridiculously in order to over-trade that Congress found it necessary to enact the Monroney Price Labelling Law.

"Any given used car has only one value—what the public will pay for that car, reconditioned and ready for sale. So long as reconditioning costs and sales expense are about equal for the new car dealer who has taken the car in trade or the used car dealer who bought it at

wholesale, any car should be worth the same to either one. Obviously then, the only way a new car dealer can pay more for a used car than it is worth is to sacrifice new car profit. If he has a lot of profit, he overallows. If he has little profit, he underallows. Giving a new car dealer more profit so that he can offer a higher trade-in allowance is, more often than not, just trading dollars and seldom results in any savings to the fleet user. Not only does it not make sense from a standpoint of pure economics, it puts the new car on the books at a larger dollar amount and, therefore, creates higher interest costs.

"There have been a few times when there seemed to be some advantage in the trade-in deal but the advantage was always temporary and was only possible because someone else was "stuck" with the used car loss. This happened last year when many companies made deals with automobile dealers on which trade-in allowances were established long before new models came out. When the used car market turned "sour", though, and the gamble caught up with the dealers, they soon backed away from any further deals of this type. Fleet managers operating this way then found themselves in a position where they had no way of knowing what prices they could get for used cars and, as a result, were unable to intelligently budget replacement programs. Many took the course of least resistance—they merely stopped any further replacement purchases.

"As events turned out, the used car market soon underwent a sharp recovery from the drastic recession lows to which it had fallen and prices began going up. The recovery was phenomenal, with prices on the rise all through the rest of the year and still holding up. Those fleet managers who had been scared out of making further replacements soon found themselves running into high maintenance costs, keeping poor cars in operation at a time when used car markets were good and cars could have been replaced at very satisfactory figures. Because so many automobile dealers were badly "burned" last year, few of them are likely to go into the same "guess" deals this year—taking so fool-hardy a gamble to try to make \$50 or \$75—and those fleet buyers who have been depending on making deals of this type may again find that they have no way of knowing ahead of time just how they will come out on their replacement programs.

"Anyone will agree that trading used cars to new car dealers is the simple, easy way to dispose of them. Whether it is the way in which to get maximum prices while still obtaining a low purchase price on new vehicles, though, is something else again. Based on past experience we think few leasing companies would agree that the trade-in route is the most profitable route."

4

TRAILMOBILE INC.



the
C-68

*A companion unit to the C-64
featuring side panels
of horizontal corrugated aluminum.
New quarter panel design
provides for leakproof
roof fastening.*

5

TRAILMOBILE INC.



the

L-64

This is the now famous Lo-Level van that features straight floor loading and high capacity in a lightweight aluminum trailer. Unit pictured has exposed post side panels.

Fuller Expands its Auxiliary Transmission Line

THE EXPANDED line of Fuller auxiliary transmissions now include 16 three-speed auxiliary units. Designed for use in the transport, logging, construction, mining and crane carrier industries, the new transmissions give a wide range of gearing options.

The new auxiliaries include

splitting ratios, both underdrive and overdrive. Using these splitters, drivers can get maximum horsepower through a full range of vehicle speeds. In over-the-highway operations, Fuller says the extra gears permit faster schedules and better hill climbing ability. They also help drivers maintain a better pace in congested traffic.

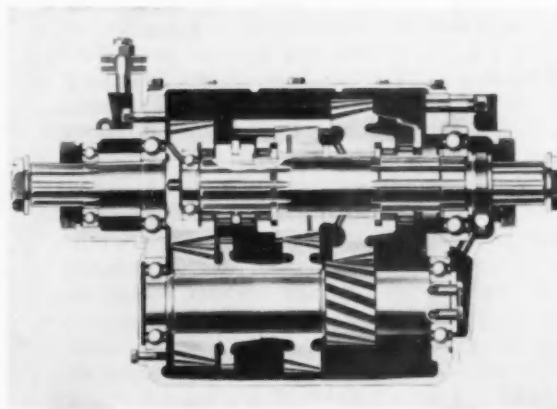
The new auxiliaries are offered in two basic series. For heavy-duty service, the 92 Series is available in eight different models for use with engines up to 920 cu in. displacement. Included are five new sets of gear ratios not formerly offered.

In the 65 Series, there are also eight models available for medium-heavy-duty service. Ratios vary from 0.74:1 to 1:1 in the high ratios and from 1.239:1 to 2.64:1 in the low ratios, with numerous variations in between.

Short overall length and

lightweight construction highlight the new auxiliaries. Fuller's Model No. 3-A-65, for instance, weighs 270 lb. measures slightly over 19 in. in length. In the heavy-duty series, Model No. 3-A-92 is 22 9/16 in. long, weighs 350 lb.

With the wide range of ratios available, the new auxiliaries give maximum flexibility both on and off-highway. Deep reductions, in combination with splitting ratios give a broader range of ratios to handle extreme grades and soft footing, yet still give splitting efficiency where it is needed in highway service and in congested traffic.



Automatic Scale Speeds Weighing for Consolidated

CONSOLIDATED FREIGHTWAYS has installed a new automatic axle load weight control center at their loading dock in Seattle, Washington. The truck operator can now accurately check individual axle load weights without leaving the truck, and without requiring assistance from any other person.

The installation has a 50,000 lb x 50 lb increment axle load scale with cabinet dial. Signal lights guide the driver onto the axle scale, then an illuminated "Scoreboard" shows him the axle load



weight in lighted numbers 10-in. high. All equipment was supplied by the Howe Scale Company, Rutland, Vermont.

Operation of the weight control center is automatic. The control light is green when the driver approaches the axle load scale.

As the axle moves onto the scale, the light turns red and the driver stops. The weight on the axle is flashed on the scoreboard and indicated on the scale dial alongside the truck. The light turns green, the driver writes down the weight on the first axle, and moves ahead until the light turns red again. This procedure is repeated for successive axles, at which point the individual axle loads are checked for violations. If an overweight axle is discovered, the load is then re-distributed.

A remote printer is available for similar installations to furnish the driver with a printed record of his axle weights. He can pick up the ticket after he has completed the weighing operation and left the scale.

COMMERCIAL CAR JOURNAL, December, 1958

6

big opportunities
to design the
ideal trailer
for your operations.

Ask your
TRAILMOBILE INC.
representative
about

CID
SERIES
'60



Trailmobile Inc.
Cincinnati 9, Ohio

the
L-68

The road-proved
Lo-Level unit
with horizontal corrugated
aluminum side panels.

The ultimate
in modern trailer design.

"40% TREAD
LEFT AFTER
100,000
MILES!"



AS REPORTED
BY D. C. POWELL,
NEWSOM TRUCK
LINE, INC.,
HOUSTON, TEXAS

Revolutionary New ALLSTATE Transverse Rib Truck Tires



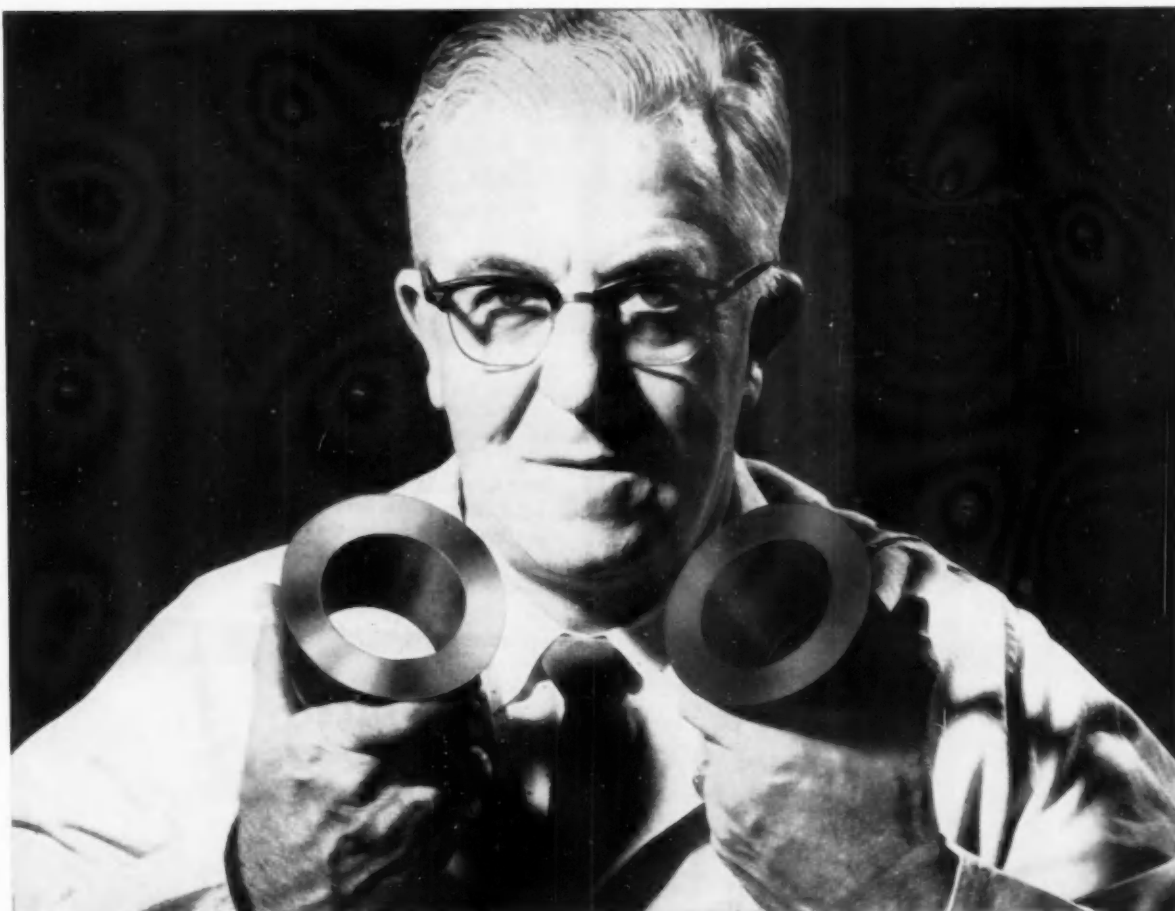
SPECIAL INTRODUCTORY PRICES EQUIP TODAY AND SAVE!

On drives or fronts, tractor or trailer, here's one tire that rolls up service and savings on any wheel...on any run! Tested under 150,000 lb. permit loads on Newsom Truck Line, Inc., these new tires still had 40% of their original tread at 100,000 miles! Still other tests show you can expect up to 12% more mileage on the average. And there is no tread cracking in either nylon or rayon construction. Siping provides tight traction on wet roads. Heavy lugs pull you through snow and slush, yet it's a smooth, quiet-running tire on the road. All popular sizes. Call your ALLSTATE truck tire representative at any Sears location for special introductory prices now.

©1958, SEARS ROEBUCK AND CO.



Sold only at Sears...satisfaction guaranteed or your money back



Which Twin is the PHONY?

**One of these clutch sleeves
will cause trouble . . .
within 10,000 miles!**

If you picked the sleeve on the left, you're right! That shiny, "brand-new" look is the tip-off. It means the face has been reground, removing all or most of the case-hardening necessary for long, trouble-free wear.

The sleeve face of the genuine Lipe Guaranteed Clutch at right bears the almost-black finish of newly case-hardened and Luberized steel. Case-hardening to a depth of .007" and a further surface treatment which impregnates the pores of the metal with a lubricating

preservative increases the life of Lipe clutch sleeves 5 to 10 times over that of untreated or reground sleeves.

Field rebuilders' "short cuts" mean short clutch life for you!

A reground sleeve is just one fault you may find in a field-rebuilt clutch. In addition, there may be improper balancing; faded pressure springs that cannot maintain the required torque; reground pressure plates that warp and dish under normal friction heat.

All parts in Lipe Clutches conform to high precision standards!

From our experience in supplying clutches to 54 makers of heavy-duty equipment comes the know-how that

goes into the manufacture of the Lipe Guaranteed Clutch. That is why we can unconditionally guarantee our product to be unequalled by field rebuilders.



Look for this factory seal when you take delivery on a Lipe Guaranteed Clutch for replacement service. It is your assurance of long trouble-free life, and big long-run savings.

**SEND FOR OUR FREE
"Clutch Facts" Booklet**

Tells you how to get more life from your heavy-duty clutches and what to look for when replacing them.



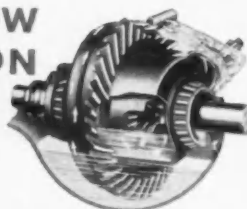


PLANETARY GEARING

—distributes pressure and wear over four planetary gears, resulting in lower unit stress, reduced maintenance, longer axle life.

FORCED-FLOW LUBRICATION

—supplies positive lubrication to all moving axle parts, even at slowest vehicle speeds.

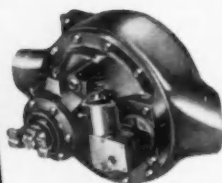


SELF-CONTAINED AIR BRAKE

—provides for greater braking efficiency; quick action and quick release; quick easy reline. Available on Eaton air brake models.

POSITIVE SHIFT CONTROL

—on 2-speed models, provides quick, easy shifts. Drivers use available gear ratios—the right ratio for each road and load condition.



EXTRA-RUGGED CONSTRUCTION

—eliminates the possibility of harmful distortion or misalignment under full load, holds maintenance to a minimum.

INDUCTALLOY AXLE SHAFTS

—handle more pounds of torque without fatigue failure; last 3 to 10 times longer. Keep trucks on the road, reduce maintenance expense.



These EATON AXLE Features Save Money for Truckers

The advanced features built into Eaton's practical, down-to-earth axle designs add up to rugged dependability, less shop time, easier maintenance, longer axle life. They enable truck operators to get the most out of their hauling equipment at lowest possible cost. Ask your truck dealer for complete information.



More than Two Million
Eaton Axles in Trucks Today

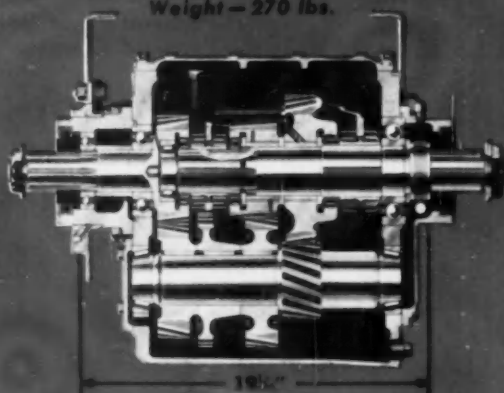
EATON

AXLE DIVISION
MANUFACTURING COMPANY
CLEVELAND, OHIO



PRODUCTS: Engine Valves • Tappets • Valve Lifters • Valve Seat Inserts • Jet Engine Parts • Gears • Hydraulic Pumps
Truck & Trailer Axles • Truck Transmissions • Permanent Mold Iron Castings • Automotive Heaters & Air Conditioners
Fastening Devices • Cold Drawn Steel • Stampings • Forgings • Leaf & Coil Springs • Dynamatic Drives & Brakes

Model 3-A-65
Weight — 270 lbs.

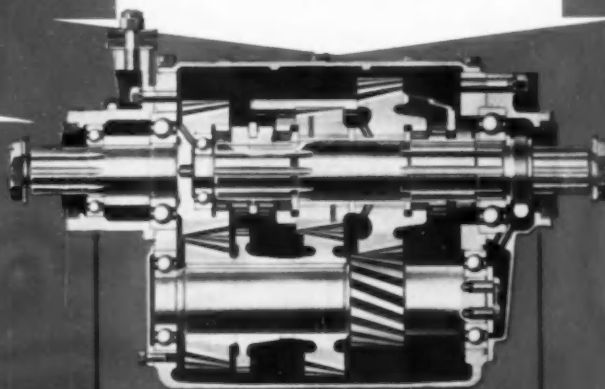


65 Series (Medium-Heavy-Duty)

MODEL	RATIOS		
	High	Medium	Low
3-A-65	.754	1.00	2.221
3-B-65	.804	1.00	1.239
3-C-65	.754	1.00	1.239
3-D-65	.804	1.00	2.221
3-E-65	.804	1.00	1.74
3-F-65	.754	1.00	1.74
3-G-65	1.00	1.32	2.221
3-H-65	1.00	1.32	1.74

92 Series (Heavy-Duty)

MODEL	RATIOS		
	High	Medium	Low
3-A-92	.75	1.00	2.09
3-B-92	.84	1.00	1.24
3-C-92	.75	1.00	2.64
3-D-92	.75	1.00	1.24
3-E-92	.84	1.00	2.09
3-F-92	.84	1.00	2.64
3-G-92	1.00	1.327	2.09
3-H-92	1.00	1.327	2.64



Model 3-A-92 • Weight — 350 lbs.

Now ...the most complete line of 3-speed AUXILIARY Transmissions

The Fuller Manufacturing Company now offers the most complete line of three-speed auxiliary transmissions . . . for transport, logging, construction, mining and crane carrier services . . . at lower prices than competitive units in a comparative capacity range.

The extremely rugged heavy-duty 92 Series has been completed by the addition of 5 new sets of gear ratios, Models 3-D-92 through 3-H-92. Four new sets of gear ratios, Models 3-E-65 through 3-H-65 have been added to the medium heavy-duty 65 Series.

Split Gears and GO

The expanded line of three-speed

auxiliary units includes splitting ratios, both underdrive and overdrive. With these splitting ratios, the engine can operate at maximum horsepower through a full range of vehicle speeds. Ideal for over-highway operation, the extra gears allow faster schedules, greater profits.

Deep Reductions

Deep reductions, in combination with splitting ratios, offer maximum flexibility both on and off-highway where the deep reduction is required for extreme grades and soft footing, and where splitting efficiency is required for traffic conditions.

Longer Equipment Life

With engines working in the most efficient torque and horse-power range, there is less lugging . . . less wear . . . and greater fuel economy. Result: lower maintenance costs, less downtime, longer engine and transmission life.

FULLER



TRANSMISSIONS

FULLER MANUFACTURING CO. Transmission Division • Kalamazoo, Mich.
Subsidiary, Eaton Manufacturing Company

Unit Drop Forge Div., Milwaukee 1, Wis. • Shuler Axle Co., Louisville, Ky. (Subsidiary) • Sales & Service, All Products, West. Dist. Branch, Oakland 6, Cal. and Southwest Dist. Office, Tulsa 3, Okla.

ENGINEER'S FIELD REPORT

**CHEVRON PRESSURE
PRIMER SYSTEM**
PRODUCT
Bend-Portland Truck Service
FIRM
Portland, Oregon

Chevron Starting System cuts starter repairs 75%



Chevron Pressure Primer Systems on Bend-Portland Truck Service's 22 diesel tractors last winter cut starter repairs 75%... reduced battery replacements 25%. "We sometimes towed trucks as long as an hour to get them started in cold weather," says fleet superintendent Ed Gutschmidt, "but we haven't towed one since we installed Chevron Pressure Primer Systems. And our generators and voltage regulators last longer, need fewer repairs and adjustments. Altogether, Chevron Pressure Primer Systems save us many hours a year, and hours are dollars."

Driver Gordon Campbell (above) demonstrates how easy it is to start his Kenworth with a Chevron Pressure Primer Cartridge and the discharger mounted on dashboard. Firm previously tried spray-packs, fluid and ether... often needed two men to get truck started. Now one man and a cartridge or two does the job even when it's 30° below zero.

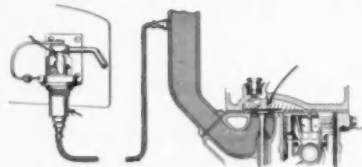


TRADEMARK "CHEVRON" AND CHEVRON DESIGN REG. U.S. PAT. OFF.
STANDARD OIL COMPANY OF CALIFORNIA, San Francisco 20
THE CALIFORNIA OIL COMPANY, Perth Amboy, New Jersey



Firm's Trucks, all powered with Cummins diesels, range from new to 10 years old. Controlled charge of Chevron Pressure Primer System starts them all safely without knock or ping.

Why Chevron Pressure Primer System assures fast starts



- Volatile Chevron Priming Fuel atomizes in induction system at all temperatures even down to -65°F. No hand-pumping required.
- Pressure or weakest spark from engine fires mixture.
- Simple rugged air-tight discharger prevents Priming Fuel leakage.
- Small, fireproof, pressurized, steel cartridges protect priming fuel from water and dirt.

For More Information or the name of your nearest distributor, write or call any of the companies below.

STANDARD OIL COMPANY OF TEXAS, El Paso
THE CALIFORNIA COMPANY, Denver 1, Colorado



Happy drivers help your business ... riding on BOSTROM seats

Very likely your drivers contact your customers and the public more than anyone else in your company. Are they being courteous and helpful ... are they always "selling" for you?

Well, if they're weary and worn out, probably not. Bouncing around in a truck all day isn't the easiest way to keep a well-regulated, irritation-free disposition.

The way to make sure your drivers have a "good will" disposition is to give them Bostrom "Level-Ride" 80 seats to ride on. This "human-engineered" suspension seat takes away 80% of road shocks and vibration—providing a 5-times-better ride. Fatigue

and irritability fade out of truck driving.

In Bostrom "Level-Ride" 80 seats, giant rubber torsion springs soak up shock *under* the seat instead of *in* the driver's body. Thus, fatigue is greatly reduced ... efficiency, productivity and disposition are improved. Only Bostrom "Level-Ride" 80 seats offer these advantages. More than 135,000 Bostrom suspension seats in use prove their value.

You can obtain "Level-Ride" 80 seats on every make of new truck. There's also a "Level-Ride" 80 available to fit your present trucks—for replacement *now*. See your truck dealer or check with your Bostrom parts jobber.

Want a demonstration?
Write and we'll arrange one for you.

BOSTROM[®]

BOSTROM CORPORATION
133 West Oregon Street, Milwaukee 4, Wisconsin

7 ways to save worn engines with PERFECT CIRCLE POWER SERVICE!



1. **Save by using Perfect Circle Manulathe.** Accurately and quickly regroove worn top ring grooves. Practically all worn aluminum pistons require this operation when new rings are installed.
2. **Save by using Perfect Circle tempered steel spacers** for re-machined ring grooves. Precision-made to compensate for increased groove width. Retards ring and groove side wear.
3. **Save by installing Perfect Circle 2-in-1 Chrome piston rings.** Both top rings and oil rings are plated with thick, solid chrome that resists wear, more than doubles life of cylinders, pistons and rings.
4. **Save by using Perfect Circle Nurlizer.** Proved by more than 14 million successful installations. Restores pistons to correct fit, accurately, quickly and permanently, for only a fraction of the cost of new pistons. Nurlizing interrupted surface assures adequate piston lubrication, reduces cylinder and piston wear, eliminates piston slap.
5. **Save by using Perfect Circle Plastigage.** Bearing clearances can be quickly and accurately checked in as little as one-third the time required by older methods. Available in three types covering these clearance ranges: .001-.003, .002-.006, .004-.009.
6. **Save by using Perfect Circle Taper Shim Bearing Adjuster.** Custom-made to correct excessive clearance in main and connecting rod bearings, pre-cut and scientifically tapered. Precision fit assured. Custom-made for all popular engines in .002, .003, and .004 thicknesses.

With so many ways to economically extend the life of worn engines—no wonder leading fleet owners use Perfect Circles for top performance and efficiency.

Special fleet technical assistance is available through your Perfect Circle supplier.



7. **NEW! Save by installing Perfect Circle Valve Seals.** Newest PC Power Service product stops oil loss through valve guides on overhead valve engines. For best performance, greatest economy, install Perfect Circle Valve Seals when valves are reconditioned and when new rings are installed.

PERFECT CIRCLE

Hagerstown, Indiana

Don Mills, Ontario, Canada



UP FRONT WITH **CCJ**

DECEMBER 1958 FLEET HIGHLIGHTS AS REPORTED BY COMMERCIAL CAR JOURNAL

ATA CONVENTION

was biggest trucking industry activity last month. It marked the Association's 25th anniversary. Despite the festive atmosphere of Miami Beach, ATA's directors, governors and other key officials buckled down for a solid week of hard work. One of the big jobs: A new slate of officers. 1958's First Vice President E. W. Krause, who would normally move up to the presidency automatically, withdrew for personal reasons. This left the nominating committee with two top posts to fill. Its selections—for President—J. Robert Cooper of Red Star Transit, Detroit, and for Vice President—Welby M. Frantz of Eastern Express, Terre Haute, Ind.—were confirmed by the convention. Renamed Second Vice President was R. Stuart Moore of Los Angeles-Seattle Motor Express, Oakland, Cal. New Third Vice President is John J. Gill of Petroleum Heat & Power Co., Providence, R. I. Also re-elected were Fourth Vice President Griswold B. Holman of G. B. Holman & Co., Rutherford, N. J., Treasurer John M. Akers, of Akers Motor Lines, Gastonia, N. C., and Secretary Harry L. Gormley of Keystone-Lawrence Transfer, New Castle, Pa. Retiring President Guy W. Rutland, Jr., of Motor Convoy, Hapeville, Ga., moved up to ATA Board Chairman.

TAXES AND SAFETY WILL BE biggest issues in the next 20 years predicted ATA Managing Director John V. Lawrence. His report prompted adoption of two resolutions. One reviewed the pro and con of the need for increased highway use taxes (sure to be asked for when Congress meets in January). Conclusion was that no new fuel or use taxes are warranted at this time. Another resolution gave ATA's full support for a new federal highway safety research program. (It already has backing of the National Safety Council.) Legislation for this project is expected to be introduced in the coming Congress. Also approved was a new annual award to the "truck fleet safety supervisor judged to be outstanding in the nation."

OTHER CONVENTION HIGHLIGHTS include . . . A challenging address by Interstate Commerce Commissioner Kenneth H. Tuggle on keeping pace with our growing economy—210 million people by 1970 . . . A tribute and plaque to the retiring chief of ICC's Bureau Motor Carriers W. Y. (Ben) Blanning . . . A welcome to his successor, Gen. Herbert Qualls . . . A bomb shell from Senator Warren G. Magnuson, Wash. (Chairman of the Senate's Interstate Commerce Committee), who said, "More and more I feel that **common carriers** are the most dependable and responsible form of transportation our country can have." The applause was as sharply divided as that for a strictly partisan speech in Congress! . . . Approval to build a new \$2 million headquarters for ATA on P St. between 16th and 17th Sts. in Washington, D. C. (just behind the present building) . . . Authorization for a new Heavy Carriers Conference to meet needs of fleets primarily concerned with special permit loads.

DETROIT DISPATCH

CHARLES F. KETTERING died last month at the age of 82. Last job "Boss Ket" held before his retirement was Research Division head of GM. He's credited with a whole list of firsts—both in and out of the automotive field. Among them: the self-starter, an automotive ignition system, ethyl gasoline, the electric cash register, a medical fever machine.

REAR-MOUNTED TRANSMISSION IS coming. One major car maker is reported to have perfected such a unit, is going ahead with plans to introduce it on 1960 models.

TWO TRAILER "BUGS" ARE getting attention from ATA's Regular Route Common Carrier Conference. One complaint: Trailer supports are mounted with too little highway clearance. The other: Sliding tandems sometimes break or bend spring hangers.

"DEAD MAN" CONTROL FOR motor vehicles has been announced. It's a ring that fits almost flush with the steering wheel. Driver's hand on wheel keeps it flush. If he releases his grip, ring springs out to trip a switch that blows horn and applies hand brake automatically. It was developed in Italy, is not yet on the market.

ST. LOUIS WILL have some 240 air conditioned buses in operation in 1959. St. Louis (Mo.) Public Service now has 140 equipped, plans 100 more next year. Interesting sidelight, the transit company—through its subsidiary PSC Automotive Maintenance Co.—is now a franchised dealer for Thermo King bus air conditioning equipment.

WHITE SIDEWALLS ARE going commercial. Greyhound has placed an order with Goodyear Tire & Rubber

WASHINGTON WATCH

TAXES—Highway use and excise—are due for debate in Congress next month. Report is a boost of 1½¢ will be asked in gasoline tax. Opposing this are both American Trucking Assns. (see page 33) and American Automobile Assns. (see page 36).

HIGHWAY MONEY IS needed. In the three-month period July-Aug.-Sept. this year, Highway Trust Fund income from use taxes totalled slightly over \$570 million. Highway expenditures from the Fund in the same period reached \$663 million. Fund at the close of September was still \$956 million in the black, but experts predict that with higher-than-estimated costs and added Interstate System mileage this won't go far.

ALTERNATIVE MONEY sources suggested so far include (1) appropriation from general revenues, (2) a share of the defense budget, (3) a bond issue. At the time the highway program got underway, this last idea was discarded in favor of a pay-as-you-go approach.

EXCISE TAXES COULD be reduced. Reasoning goes like this: More Demo-

crats in Congress results in a more sympathetic view for what organized labor wants. If Walter Reuther appears before the tax committees asking for reduction or abandonment of automotive excises—as he is expected to do, he may get support. Added weight would come from Automobile Manufacturers Assn. It's equally interested in excise tax modification.

WANT TO WIN up to \$250? If you are a member of ATA's Operations Council, you can enter M-H Equipment Co.'s essay contest. Deadline is Dec. 31, 1958. All you do is write an essay of 2000 words or less on "Our Experience with Four-Wheel Carts" and mail to Essay Contest Committee, Operations Council, American Trucking Assns., 1424 Sixteenth St., N.W., Washington 6, D. C. First prize is \$250, second is \$100, and there are three \$50 third prizes.

BRAKE SAFETY REG changes affecting the number of required brakes as described in Sections 193.42(c) and 193.48 (Oct., page 33) won't go into effect for a while. ICC has extended deadline for comment to Mar. 14, 1959.

Co., will use the premium tires on its deluxe service express runs. Other features of the service include meals, hostess, restroom facilities, roomier interiors.

WIRING AND PARKING BRAKES ON both pickup and delivery units and over-the-road equipment is being surveyed by Private Truck Council of America. It wants to know how and where failures occur and what its members recommend toward eliminating problems.

AVERAGE AGE OF trucks in use today is 6.98 years. A million are 12 or more years old.

REO HAS added two new series to its line—C-200 and C-300. With five basic models in each series, they're rated in the 18,500-23,000 lb GVW class, have 15,000-17,000 lb capacity rear axles.

EXCISE TAX ON lease of a trailer cannot exceed amount tax would be if the trailer were sold outright. Ruling stems from Section 117 of HR7125, applies only to lessors who also sell trailers.

PER DIEM TRAILER rental charges have been OK'd by the Interstate Commerce Commission. Action gives green light to operation of National Motor Equipment Interchange Agreement developed by Regular Common Carrier Conference, American Trucking Assns. (Feb., page 34). In addition to standard rental rates Agreement includes procedure manual, interchange contract, flat rate repair schedule for trailers.

OHIO AXLE MILE TAX HAS been upheld by the U. S. Supreme Court. It refused to review the decision of the Ohio Supreme Court that the tax is constitutional. Attorney for the 60 fleets involved says Ohio can now claim three years of back taxes. Some observers say such action could bankrupt some carriers. Meeting was held late last month to consider petitioning Supreme Court for a rehearing.

TRUCK TONNAGE

SEPTEMBER truck tonnage was up 2.3 per cent over September, 1957, reports AIA's Research Dept. The increase was recorded despite the work stoppage that halted traffic in the 11-western state area during first half of the month. Excluding this territory, the gain was a substantial 6.6 per cent. One bright spot was a boost of 1.5 per cent in September this year over September, 1957, in the Central region.

This is the first time this year this Region—accounting for about a third of truck tonnage—registered an increase over '57. Three highest gains were: Mid-Western region—up 11.9 per cent, Northwestern—up 11.2 and Southern—11.1.

Month	% Change from Previous Month	% Change from a Year Ago
September, 1958		+ 2.3
August, 1958	+ 0.2	+ 6.8
July, 1958	+ 2.4	+ 0.3
2nd Quarter '58		+ 2.6
June, 1958	+ 3.2	+ 5.3
May, 1958	+ 2.6	+ 3.8
April, 1958	+ 1.9	+ 9.4
1st Quarter '58		+ 5.6
March, 1958	+ 6.6	+ 7.6
February, 1958	+ 8.5	+ 8.1
January, 1958	+ 9.3	+ 5.3
4th Quarter '57		+ 0.9
December, 1957	+ 10.2	+ 0.2
November, 1957	+ 14.4	+ 4.8
October, 1957	+ 5.6	+ 0.2
3rd Quarter '57		+ 6.5

TRUCK AND BUS PRODUCTION

Make	Weeks Ending		Year to Date	
	Nov. 8	Nov. 1	1958	1957
Chevrolet	8,426	6,645	215,260	299,046
GMC	1,874	1,113	49,197	58,694
Diamond T	123	158	4,860	4,902
Dodge	70	70	2,492	2,499
Dodge and Fargo	1,922	1,439	47,463	67,304
Ford	7,231	7,361	193,254	299,750
FWD	18	15	1,076	945
International	2,273	237	78,431	103,859
Mack	271	279	12,069	14,895
Studebaker	408	219	9,677	12,139
White	419	426	14,622	16,533
Willys	2,020	2,172	79,897	64,617
Other Trucks	55	55	2,480	3,646
Total—Trucks	25,110	20,189	705,780	944,831
Buses	35	25	2,667	3,460
Total—Trucks and Buses	25,145	20,214	708,447	948,291

IN THIS ISSUE

COST CONTROL gets emphasis in **COMMERCIAL CAR JOURNAL's** second exclusive report-in-depth on one of the nation's leading fleets—Tennessee Valley Authority. Story starts on page 69. You'll also find out what CCJ's Mobile Editorial Team discovered about TVA's **VEHICLE REPLACEMENT, MAINTENANCE, MECHANIC INCENTIVE** and **ACCIDENT PREVENTION**. . . . Also there's a new look at the importance of **TRANSIT MAINTENANCE** (page 102), description of two new **HEAVY DUTY BRAKES** (page 106), details on White's just announced **50-in. BBC TRACTOR** (page 112).

. . . And—for your convenience—a complete **INDEX** to the many cost cutting, informative, important-to-efficient-fleet-operation articles that appeared in **COMMERCIAL CAR JOURNAL** during **1958** (page 109).

The Road Ahead



MARK THESE DATES ON YOUR JANUARY CALENDAR. Jan. 12-16—Society of Automotive Engineers Annual Meeting and Engineering Display, Sheraton-Cadillac and Statler Hotels, Detroit . . . Jan. 17-25—Chicago Automobile Trade Assn. Annual Car and Truck Show, International Amphitheater, Chicago . . . Jan. 19-22—American Road Builders Assn. Annual Convention and Exhibit, Dallas Memorial Auditorium, Dallas, Texas . . . Jan. 25-29—Truck-Trailer Manufacturers Assn. Annual Convention, Hollywood Beach Hotel, Hollywood, Fla. . . Jan. 29-30—Private Truck Council of America Annual Meeting, Sherman Hotel, Chicago.

TRUCK STOP PURCHASES CAN be verified through a new service. Organized by National Truckers Service, Newport News, Va., the plan includes a list of approved truck stops and a system of verified receipts. NTS does the checking, sends the verified receipt to the carrier's main office. Presently expanding in the southern states, NTS expects to make the coverage nationwide.

PART OF NATIONAL DEFENSE BUDGET SHOULD go to paying for the National system of Interstate and Defense Highways, says American Automobile Assn. Citing the expected deficit in the Highway Trust Fund by 1960 (Oct., page 33), A AA points out these highways are an integral part of national defense plans, sees no reason why part of their cost should not be met by national defense funds.

VEHICLE EXHAUST CONTROL IS getting emphasis in Los Angeles, Cal. Noting that rubbish burning, industrial and refining air pollution are being brought under control, smog experts there say, "We have three million cars, trucks and buses still completely uncontrolled." Being studied are methods to control vehicle fuel evaporation and exhaust. Groundwork for a vehicle exhaust law also is being laid.

LOVE THAT TRUCK. It may not be that easy, but ATA's Regular Common Carrier Conference opened a broad public relations program last month. Its aim is to ". . . tell the story of the common carrier truck lines not only to legislators, public officials and regulatory bodies, but to the general public which is the ultimate user of our services," says Conference Chairman L. D. Rahilly. First step was the employing of Allied Public Relations, Inc.

THEY'RE LOOKING FOR \$1,000,000 to endow transportation research and teaching at Texas A&M College. Fund is a memorial to the late Thomas H. MacDonald, former Commissioner of the Bureau of Public Roads and cited as "father of the nation's modern-day highway system." For details, write Thomas H. MacDonald Memorial Fund, 200 Ring Bldg., Washington 6, D. C.

In thousands of units, except bus sales are in actual numbers	New Truck Registrations		Truck Factory Sales—Domestic		Truck Trailer Shipments		Bus Factory Sales—Domestic		Truck and Bus Tires					
									Replacement Shipments		Original Equip. Shipments		Inventory End of Sept.	
	Sept.	9 Months	Sept.	9 Months	Sept.	9 Months	Sept.	9 Months	Sept.	9 Months	Sept.	9 Months		
1958	61.7	536.1	34.2	477.9	4.8	36.1	212	2242	930.8	6716.9	272.6	2300.8	2880.3	
1957	78.2	657.1	51.0	666.7	4.8	46.9	187	2619	805.4	6321.4	289.9	3190.7	3082.5	



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whatever you need to seal...



whatever needs service oils and fluids... whatever a cooling system needs...

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COMMERCIAL CAR JOURNAL, December, 1958

37



Fm sintered copper alloy bearings mean real heavy-duty mileage!

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YES, the
boss tried
some out, and
they're really
Paying off!

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"supervise" vehicle performance for little more than 2¢ per day!

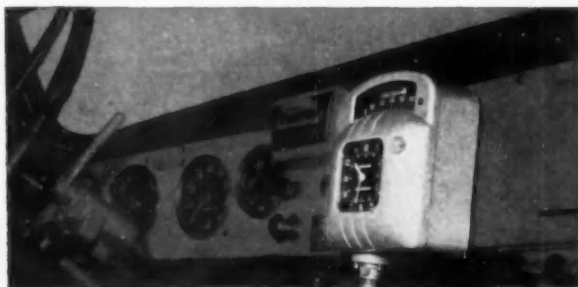
When you equip your trucks with Tachographs, it's like having your fleet supervisor go on every trip...without leaving his desk. You get complete reports of truck operations which will enable you to lower fuel, tire and maintenance costs, cut wasted time and unscheduled stops, improve safety practices, and aid the driver.

The Tachograph mounts on the dash. At the beginning of each day, or before each run, a chart is placed inside each instrument. Vital information is recorded automatically on the chart (which costs you little more than 2¢). It tells you

when the engine started, how long engine idled, when vehicle was in motion, how fast it traveled, when it stopped...for how long...and distance traveled between stops.

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COMMERCIAL CAR JOURNAL, December, 1958



"Neoprene-coated nylon tarps sharply reduced water-damaged cargo losses"

—says Mr. William Armstrong,
Maint. Supt., Assoc. Transport, Inc.

"Five years ago, porous tarps on many of our open-top trailers were permitting moisture seepage to damage cargo. That's when we began to switch to neoprene-coated nylon tarps for dependable waterproofness. Now our cargo is protected from water damage . . . it's sealed in safely for delivery in any kind of weather.

"Coated nylon tarps are light in weight . . . so easy to handle that one man can put on or take off even a big tarp. They're easy to repair, too, and so rugged that they shrug off the effects of the acids used in cleaning the aluminum bodies which they cover."

• • •

FIND OUT how coated nylon tarps can help reduce your own maintenance costs. Ask your regular tarp supplier for information, or drop a line to: E. I. du Pont de Nemours & Co. (Inc.), Textile Fibers Dept., 5518-J Nemours Building, Wilmington 98, Delaware.

Du Pont makes fibers; does not manufacture tarpaulins.



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COATED NYLON FOR TARPS—LONG-WEARING...LIGHTWEIGHT
...EASY TO HANDLE...WATERPROOF...RESISTANT TO ROT AND MILDEW

DATES and DOINGS

JANUARY 1959

- 12-16—Society of Automotive Engineers, Annual Meeting and Engineering Display, The Sheraton-Cadillac and Hotel Statler, Detroit, Mich.
- 17-25—Chicago Automobile Trade Assn., Annual Automobile and Truck Show, International Amphitheatre, Chicago, Ill.
- 19-22—American Road Builders Assn., Annual Convention and Exhibit, Dallas Memorial Auditorium, Dallas, Tex.
- 25-29—Truck Trailer Manufacturers Assn., 18th Annual Convention, Hollywood Beach Hotel, Hollywood, Fla.
- 29-30—Private Truck Council of America, Annual Convention, Sherman Hotel, Chicago, Ill.

FEBRUARY 1959

- 2-5—National Automotive Accessories Mfgs. of America, Exposition, Coliseum, New York, N. Y.
- 15-17—Motor and Equipment Wholesalers Assn., National Convention, Conrad Hilton Hotel, Chicago, Ill.
- 18-21—Automotive Service Industry Show, sponsored by MEWA, NSPA and MEMA, Navy Pier, Chicago, Ill.

MARCH 1959

- 12-15—Pacific Automotive Show, New Brooks Hall, Civic Auditorium, San Francisco, Calif.
- 16-18—Society of Automotive Engineers, National Passenger Car, Body, and Materials Meeting, Sheraton-Cadillac Hotel, Detroit, Mich.

APRIL 1959

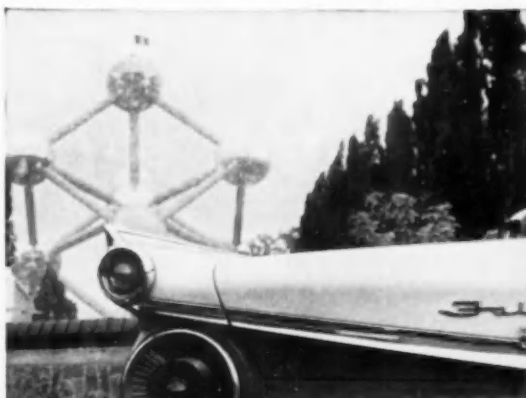
- 6-10—American Gas Assn., Edison Electric Institute, Joint Motor Vehicle Committee Meeting, Netherland-Hilton Hotel, Cincinnati, Ohio.
- 7-9—American Welding Society, Welding Show, International Amphitheatre, Chicago, Ill.

MAY 1959

- 8-9—Kentucky Motor Transport Assn., State Convention, Sheraton Hotel, Louisville, Ky.
- 12-14—American Trucking Assn., Council of Safety Supervisors, Spring Meeting, Skirvin Hotel, Oklahoma City, Okla.
- 17-20—Automotive Engine Rebuilders Assn., Annual Convention, Royal York Hotel, Toronto, Canada.

JUNE 1959

- 14-19—Society of Automotive Engineers, Summer Meeting, Chalfonte-Haddon Hall, Atlantic City, N. J.



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Six and V-8—thrive on regular gas!

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And are the *salesmen* happy! They especially appreciate such advantages as Ford's broad, low-level trunk entrance (nearly a *foot lower* than Ford's nearest competitor) that makes for far easier loading! And Ford's front seat is *full-width*, *full-depth* and cushioned with thick foam padding as *standard* equipment. No wonder first reports on '59 car sales show Ford is way out front! Businessmen everywhere agree that the most economical, most comfortable way to do business is with

— **59 FORD FLEETS**

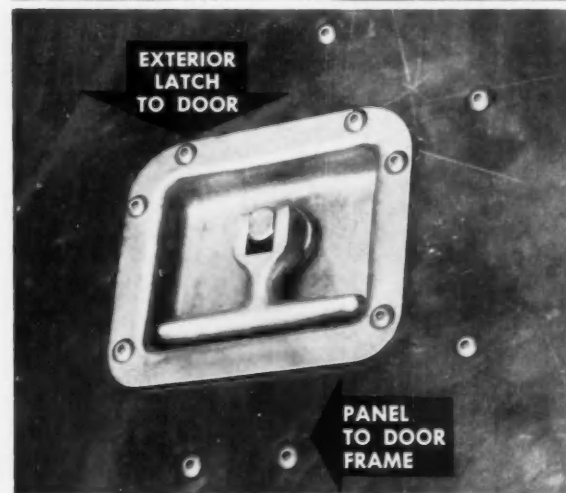
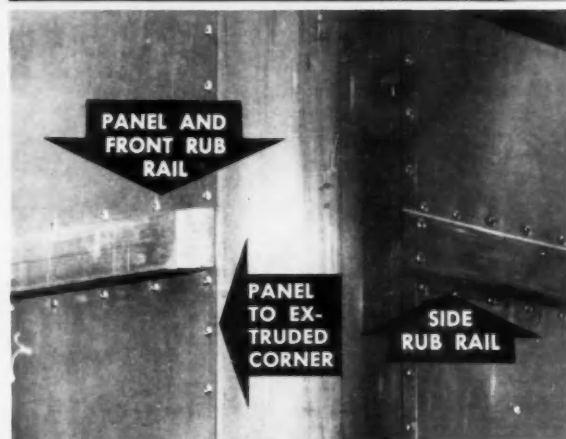
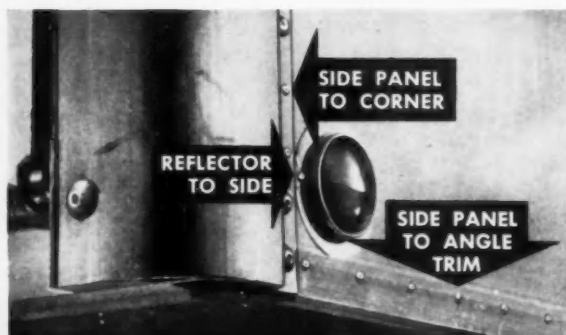


NEW ALUMINIZED muffler
lasts twice as long!

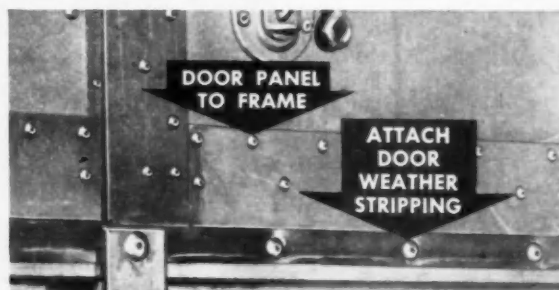


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REVIEWING THE BEST IN CURRENT PUBLICATIONS ON MAINTENANCE, EQUIPMENT
AND SAFETY OF INTEREST TO TRUCK, BUS AND CONSTRUCTION FLEET OPERATORS

Utility Fleet Reports

*from the American Gas Assn.
420 Lexington Ave., New York 17, N. Y.*

are technical papers presented at the spring conferences of the Association. The reports listed below are of special interest to operators of utility fleets. Copies are 25¢ each. Write to the above address.

Management Looks at the Transportation Department

W. W. Williams (No. DMC-58-4)

A Yardstick for Vehicle Replacement

H. J. Wurth (No. DMC-58-12)

The Use of Fiber Glass Plastic in Commercial Vehicle Bodies

W. R. Herfurth (No. DMC-58-14)

Driver Training and Traffic Safety

V. A. Howell (No. DMC-58-20)

Automatic Transmissions for Trucks

R. M. Schaefer (No. DMC-58-50)

"The Road Toll"

*from The Travelers Insurance Companies
Hartford, Conn.*

is an informative booklet published annually containing street and highway accident data. Statistics are broken down by cause, type of highway, hours, type of vehicle—and many more. It's a valuable aid to fleet safety directors. Ask for the book by title from the company or its agents. Single copies are free.

Winter Driving Pamphlet

*from the National Safety Council
425 N. Michigan Ave., Chicago 11, Ill.*

explains the value of snow tires and tire chains on winter roads and how to prevent skids on ice. Titled "How to Be a Better Winter Driver," the pamphlet translates the findings of the Council's Committee on Winter Driving Hazards into easy-to-understand facts. Included are six tips for safer winter driving and a check list of what to do before winter sets in. The last page of the pamphlet contains a stopping distance chart showing the relative effectiveness of conventional tires, snow tires and reinforced tire chains. Further information on the pamphlet may be obtained by writing the Council at the above address.

Mobile Radio Uses

*from Motorola Communications and Electronics, Inc.
4501 West Augusta Blvd., Chicago 51, Ill.*

are described in a new 19-page booklet. It is written as a reference primer on the entire field of two-way radio. Called "You and Two-Way Mobile Radio," the booklet shows how mobile radio has come to play the important role it holds today, and the outlook for it in the years ahead. It gives a comprehensive background on the mobile radio industry. The booklet is free.

Body Hoist Chart

*from the Truck Body and Equipment Assn.
1616 K St., N.W., Washington 6, D. C.*

covers three broad classifications: dump truck hoists, farm and conversion hoists, and semi and full trailer hoists. With it is available a new glossary of terms applicable to hydraulic hoists, steel dump bodies and elevating lift gates. The chart shows truck and trailer chassis most adaptable to standard dump body and hoist operations. A weight distribution table covers bodies ranging from 7 to 15 ft and wheelbases from 100 to 200 in. Single copies are free.

Poultry Trucking Report

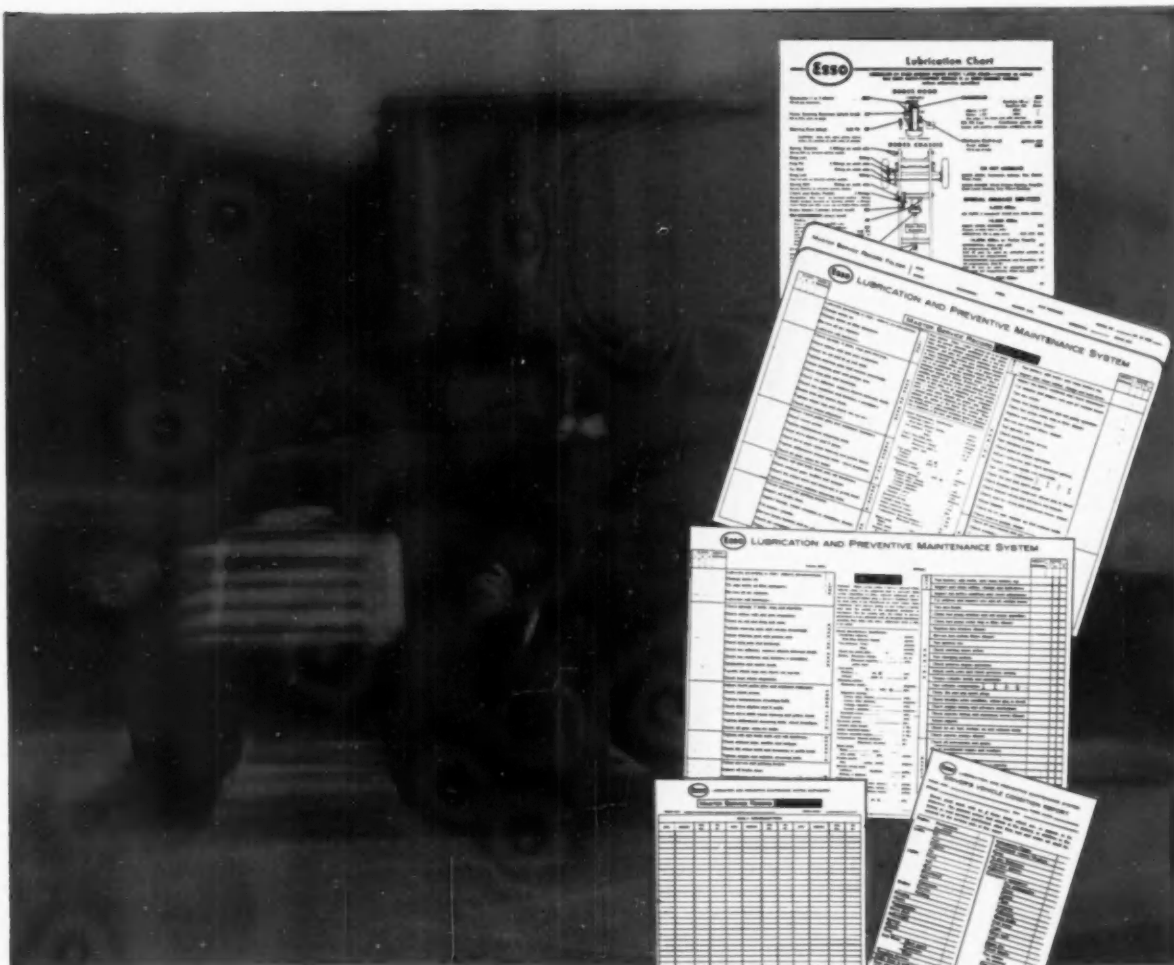
from U. S. Dept. of Agriculture

is a study on the effects of agriculture exemption on interstate transportation of both fresh and frozen poultry. It gives the fleetman complete information on everything from tonnage trends to age and type of equipment in use. Copies are for sale from the Supt. of Documents, U. S. Government Printing Office, Washington 25, D. C. Ask for Dept. of Agriculture Marketing Research Report No. 224.

Transit Supply Procedures

*from the American Transit Assn.
292 Madison Ave., New York 17, N. Y.*

are described in a guide developed by the Association's Purchases and Stores Division. Entitled a "Manual of Recommended Standard Procedures for the Purchasing, Storing, Issuing and Sales of Materials," it is for use as a guide in setting up new procedures or in modifying present systems to make them function more efficiently.



NEW

FLEET-CHECK SYSTEM

A service designed to cut costs in fleet operation

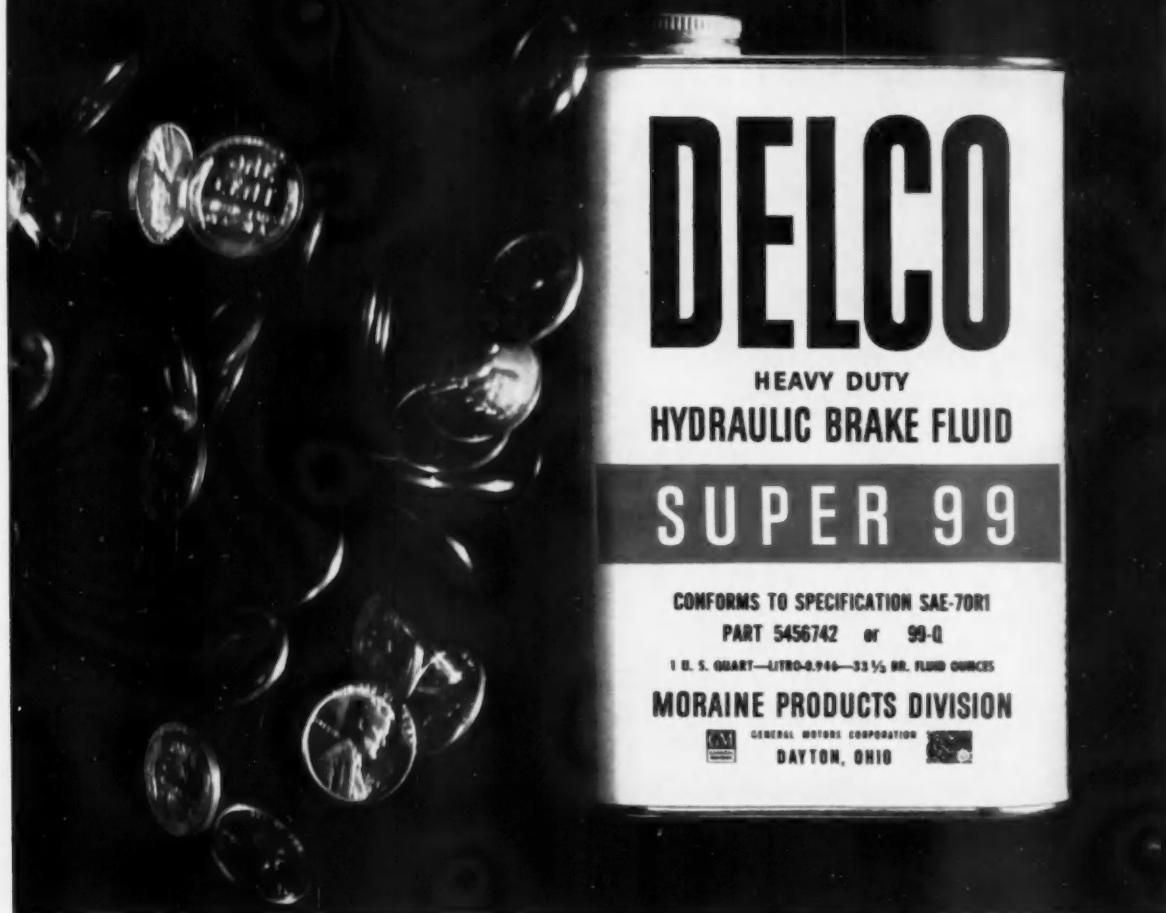
Esso's new Fleet-Check System can help you maintain a proper lubrication schedule that will pay off with lower maintenance costs. It provides for accurate cost control records and takes all the guesswork out of preventive maintenance. Regardless of the type and make of equipment you own, you can tell at a glance what needs to be lubricated, when, and with what type and grade of lubricant. There's a Fleet-Check System for your fleet, whether it be trucks or buses. This package has everything you need — including lubrication charts, maintenance service folders, work order forms, driver report forms, fuel and lubricant consumption records.

An experienced Esso Representative will be glad to set up a Fleet-Check System in your shop — and offer other technical assistance. Just contact your nearest Esso office, or write: Fleet Engineering Service, Esso Standard Oil Company, 15 West 51st Street, New York 19, N. Y.



In industry after industry...ESSO RESEARCH works wonders with oil

MAKE YOUR MOTTO "FOR SAFETY'S SAKE, WE SELL THE BEST... DELCO BRAKE FLUIDS"



top dollar protection
for pennies with

DELCO SUPER 99

heavy-duty brake fluid

*Vital parts for
Automotive Progress*



Here is broad range protection at a price your customers won't be able to resist and a real profit maker for you! Heavy-Duty Delco Super 99 is free flowing at minus 60°F. and exceeds the minimum boiling point set by S.A.E. 70 R1 specifications. That's an extra margin of safety for your customers that will keep them coming back.

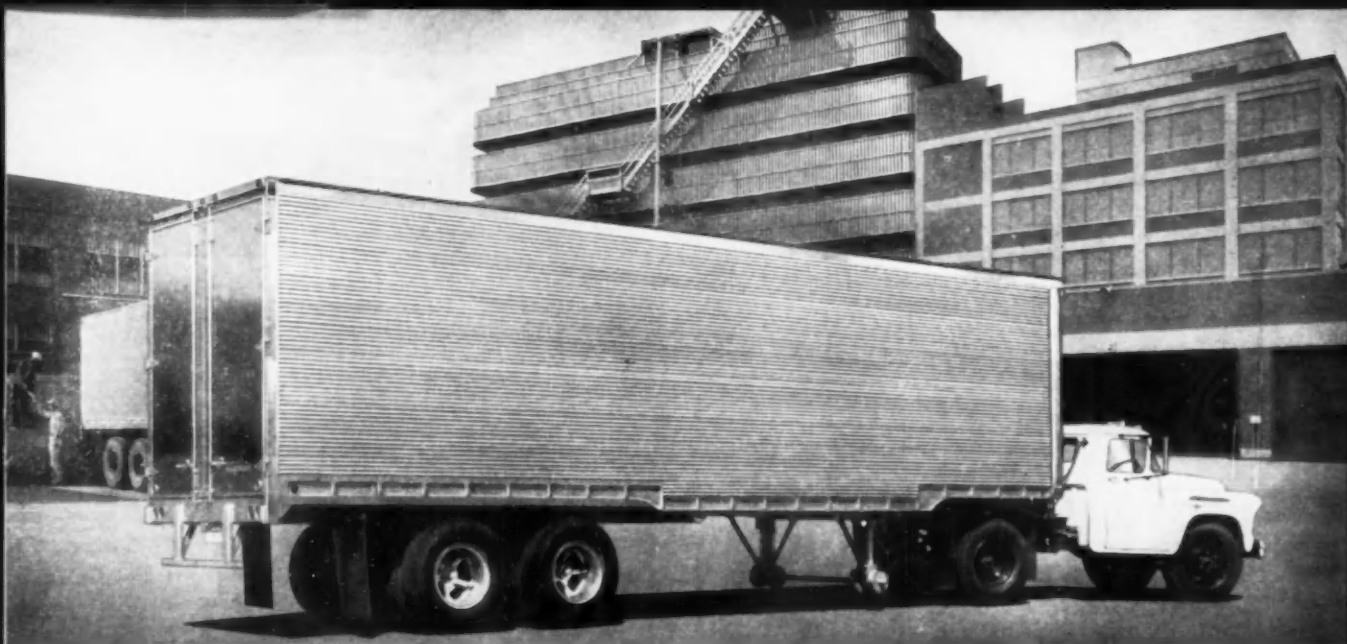
What's more, with Delco Super 99's positive response, you can assure both your passenger and commercial vehicle customers of safer and surer stops . . . every time. It's chemically inert, physically stable, and compatible with all rubber or metal brake parts as well as other quality brake fluids.

Order your stock of Super 99 and watch your sales soar. Available in sizes ranging from 12-oz. to 54-gallon drums through the United Motors System or through Chevrolet.

Moraine Products

Division of General Motors, Dayton, Ohio

COMMERCIAL CAR JOURNAL, December, 1958



NEW FRUEHAUF STAINLESS

The Low-Cost, Profit-Proven, Lifetime Trailer For Profit-Conscious Carriers!

Among vans ...

Its usable life is longer,

Its structural strength is greater,

Its shell is permanently brighter
and more handsome.

As a result ...

Its earning power is higher,

Its cost of upkeep is lower,

Its trade-in value is bigger.



**For Forty-Four Years
—More Fruehauf
Trailers On The
Road Than Any
Other Make!**

World's Largest Builder of Truck-Trailers
FRUEHAUF TRAILER COMPANY
10940 Harper Avenue • Detroit 32, Michigan

★ SEND FREE ILLUSTRATED DETAILS AT ONCE ON THE NEW
"LIFETIME STAINLESS," AVAILABLE FOR PURCHASE OR LEASE!

Name _____
Company _____
Address _____
City _____ State _____

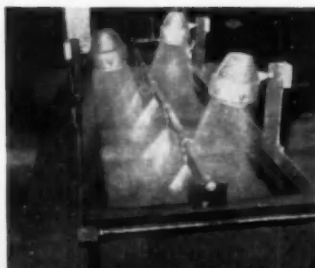
THESE FEATURES MAKE THE NEW, TORTURE-TESTED STAINLESS RUGGED AND PROFITABLE

TWO-WAY SIDEWALL STRENGTH—
Quarter inch horizontal corrugations and
hat shaped stainless posts, all electroni-
cally welded together, create two-way
rigidity plus very light weight.

THOROUGH WATER TESTING—
Every inch of the exceptionally sturdy
roof is subjected to severe tests with
torrents of water and brilliant light
to assure leak-proof performance.

HUSKY, HEIGHT-SAVING FRAME—
Shallow but wide and sturdy cross-
members provide a low floor and brute
strength. Straight frame with 2 3/4" coupler
is available for extra capacity.

SIMPLIFIED REPAIR—Panel tears can
be patched speedily and easily with
standard tools in your own shop, and
major repairs are economically made by
any Fruehauf Branch.





NEW **Snap-on** TUNE-UP SET

Exhaust Gas Analyzer
Tach-Dwell Meter
Generator-Regulator Meter
Ignition Analyzer

now!

**diagnose troubles quickly,
easily, positively
at low cost**

MT-405A Exhaust Gas Analyzer — Checks the air-fuel ratio — shows you if engine is operating efficiently; if carburetor is set properly. Use on any gasoline or liquid petroleum-type engine with single exhaust pipe. Flexible sampling tube and tail pipe adapter fits all cars — attaches securely to bumper on road tests. Completely self-powered. Carburetor idling adjustments can be made without dynamometer.

MT-415A Tach-Dwell Meter — Tach scale checks engine rpm for servicing automatic transmissions, balancing cylinders, adjusting carburetor idling jets. Dwell scale is used to check dwell or cam angle and resistance of breaker points; set breaker points. Use on 6, 12, or 24-volt systems.

MT-401A Generator-Regulator Meter — tests the generator, checks regulated amperes, cutout and regulated voltage. It is also used to test battery and locate electrical leaks. Has 15-volt range for cars and trucks and 60-volt range for ignition systems of more than 12 volts.

MT-430A Ignition Analyzer — quickly and accurately tests primary coil efficiency; secondary coil efficiency; coil heat; stalled motor coil current; capacitor efficiency; secondary coil resistance; capacitor leakage; tests 0 to 1.5 amperes; tests 0 to 6.0 amperes; coil polarity; ignition efficiency; plug misfiring; ballast resistor continuity; general continuity; motor idle current; tests 0 to 300,000 ohms and tests 0 to 3 megohms.

These Snap-on testing sets put you in the car and truck-servicing business with real authority — give you a packaged unit for diagnosing engine and electrical system troubles accurately in a hurry.

Any mechanic can use this equipment effectively with just a little instruction. Fully illustrated booklets make it extra simple. Each tester has a minimum of adjustments and connections. No outside power needed. Each tester is a complete unit in itself — can be removed from the rack and used anywhere in the shop or on the road. Save stall space for other work.

Roll stand easily holds all four testers in test racks. Two large compartments in roll cab give you extra storage space.

YOURS ON EASY PAYMENTS

It takes modern equipment like this to service today's complex cars and trucks properly. And the profits are big, the investment small. You can own this complete MT-4000A set for just a little down, a little each week. Ask your Snap-on man the next time he calls.

MT-4000A Set — four meters, two tune-up meter racks and heavy-duty roll stand — a complete low-cost test center on wheels.



SNAP-ON TOOLS
CORPORATION
8026-L 28th Avenue • Kenosha, Wisconsin

**"We save up to 50¢
per hour per truck."**

with
**MOTOROLA
2-WAY
RADIO**



"It didn't take long for us to discover that 2-way radio *improves* customer service as it *reduces* operating costs. Our saving of \$4.00 a day for each radio-equipped truck for our pick-up and delivery service is about three times the actual cost of the radio.

"Our pick-up and delivery trucks get to each customer faster, and each truck works more profitably. We figure, at a nickel a minute, waiting costs money . . . so now when a driver finds a shipper's load not ready, or his loading dock tied up, he radios in and requests another assignment to fill the time.

"The late afternoon rush is handled smoothly without adding trucks. There are no more jammed switchboards and few, if any, customers are turned away. When a call comes in, the dispatcher sends the driver who is right in the vicinity to make the pick-up. This saves a tremendous number of back-tracking miles."

Robert T. Herrin

President,
Herrin Transportation Co.
Houston, Texas

**More Efficiency means More Profit . . .
yours with Motorola 2-Way Radio**

If your company can save only one-half as much as Herrin Transportation—25¢ an hour—your Motorola 2-way radio will more than pay for itself. Investigate the competitive edge that hundreds of truckers are gaining with 2-way radio. Contact Motorola—the *complete* communications supplier—complete product line, engineering service, installation and maintenance lease plans are available for every need. Write today.

• **"T-Power" 2-way radio . . .**

features a completely transistorized power supply for both transmitter and receiver, reducing maintenance and "down-time" and providing improved performance at lower operating costs. Available with "PRIVATE-LINE" facilities to provide freedom from unwanted co-channel messages.



- **"Twin-V" 2-way radio . . .** features interchangeable operation between 6 and 12 volt electrical systems without modification—no 6 or 12 volt changeover problems in mixed fleet operation. Also available with "PRIVATE-LINE" facilities.

T-Power, Twin-V, and PRIVATE LINE are Trademarks of Motorola, Inc.



MOTOROLA 2-WAY RADIO

Motorola Communications & Electronics, Inc., A Subsidiary of Motorola Inc., 4501 Augusta Blvd., Chicago 51, Illinois

Laugh it off

Truck Driver: "So you're the manager, huh? Well, I'll tell you what my complaint is. This \$2.50 steak isn't tender."

Diner Manager: "Oh, well, I've got a quick remedy for that. If it's affection you want—try that cute little blonde waitress over there."

CCJ

Tank Truck Driver: "For Pete's sake, what's wrong with these eggs?"

Diner Waitress: "Don't ask foolish questions like that of me, big boy. I only laid the table."

CCJ

Steno Lou: "Does your husband still find you entertaining?"

Steno Sue: "He almost did last nite, but from now on I'll be more careful."

CCJ

TRAVELING FREIGHT AUDITOR: "ANY NICE GIRLS IN THIS TOWN?"

LOCAL YOKEL: "YOU BET, BUDDY! THEY'RE ALL NICE GIRLS."

TRAVELING FREIGHT AUDITOR: "HOW FAR IS IT TO THE NEXT TOWN?"

CCJ

Shop Foreman's Son: "I think we've got company down stairs."

Shop Foreman's Daughter: "What makes you think so?"

Shop Foreman's Son: "Daddy just told a joke and Mamma laughed at it."

CCJ

Weavin' Willie swears he saw this traffic sign out by the new grammar school the other day: "Use your eyes and save the pupils."

CCJ

Catty Cora says: "By the time you learn what to do with youth, you ain't got it no more."

SAFETY DIRECTOR'S SON: "DADDY, DADDY, MOMMY RAN OVER MY TRICYCLE WHILE SHE WAS BACKING OUT OF THE GARAGE."

SAFETY DIRECTOR: "DARN IT, TOMMY, I'VE TOLD YOU TIME AND AGAIN NOT TO LEAVE YOUR TRICYCLE IN THE FRONT YARD."

CCJ

Appliance Manager: "How do you like the new vacuum cleaner we sold you, Mrs. Wrenchman?"

Truck Mechanic's Wife: "Oh, it's fine, perfectly fine. It's seven times as effective as my broom was."

Appliance Manager: "That's fine. But how do you figure that?"

Mechanic's Wife: "I hit my drunken husband with it, and it knocked him seven times as far as my broom did!"

CCJ

Shop Foreman's Wife: "I just heard your husband is in the hospital. What is wrong?"

Maintenance Super's Wife: "It's his knee . . . I found a strange woman on it."

"Cici Jay"



"You dropped your hanky!"

Steno Lou: "What sort of a fellow is your new boy friend?"

Steno Sue: "He's a perfect angel. And how is yours?"

Steno Lou: "Oh, he's the very devil."

Steno Sue: "Care to trade?"

CCJ

Fleet Photographer: "I took my girl into my dark room, last night, to see what would develop."

Fleet Magazine Editor: "What happened?"

Fleet Photographer: "The results were negative."

CCJ

Truck Dispatcher: "I understand you did quite a bit of fishing on your vacation. Did you fish with flies?"

Driver Superintendent: "Man, we fished, ate, slept, danced, boated, camped, drank and swam with them."

CCJ

SIGN IN A TRUCK STOP DINER: THE SILVER IS NOT MEDICINE. DON'T TAKE IT AFTER MEALS.

CCJ

Dynamometer Specialist: "Shay, Joe, you've had a li'l too mush too drink. Liable get arreshted drivin' home. Why don't you take the bus?"

Ignition Specialist: "Thash a good idee, good idee. Supposh it'll fit in my garage?"

CCJ

1st Freight Checker: "I want to know how long girls should be courted?"

2nd Freight Checker: "The same as short ones!"

Resume Work

300%

MORE RESISTANCE TO OVERCHARGE*
GREATER RESISTANCE TO UNDERCHARGE*

THE 2 PRIME CAUSES OF BATTERY FAILURE

WITH NEW



National

Rugged heavy-duty batteries built for severe service—transcontinental runs or start-and-stop city work. Look at these features:

- *thicker plates, heavier plates—for faster surer starting in any weather*
- *tougher hard-rubber containers—resist acid, heat, cracking*
- *double glass-plus-rubber insulation—prevent plate-oxide shedding*
- *element protectors—reduce damage from careless servicing*
- *National Deepwells—like a camel this National battery goes months without water*

See how these new National silver cobalt batteries can save you money — see your National dealer or write

**GOULD-NATIONAL
BATTERIES, INC.**

SAINT PAUL 1, MINNESOTA

* Overcharge and undercharge are the two worst battery killers, accounting for 1/5ths of all battery failures! New National batteries withstand these killers better—have triple resistance to overcharging, greater resistance to undercharging, compared to SAE minimums.

Silver Cobalt
SEALED CHARGE

**TRUCK — BUS — DIESEL
BATTERIES**

WITH THE

SILVER LINING

**HERE'S THE STORY OF
THE SILVER LINING**

Corrosion eats away battery grid material just like rust eats away bare steel. Coated steel lasts indefinitely because it doesn't rust. Similarly silver cobalt coats the battery grids, protecting them from corrosion. The grids last longer—the battery performs better.



Bare unprotected
steel rusts



Coated steel
resists rust



Unprotected battery
grids corrode



Silver cobalt grids
resist corrosion

HOW STRONG IS



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THE CHAIN?

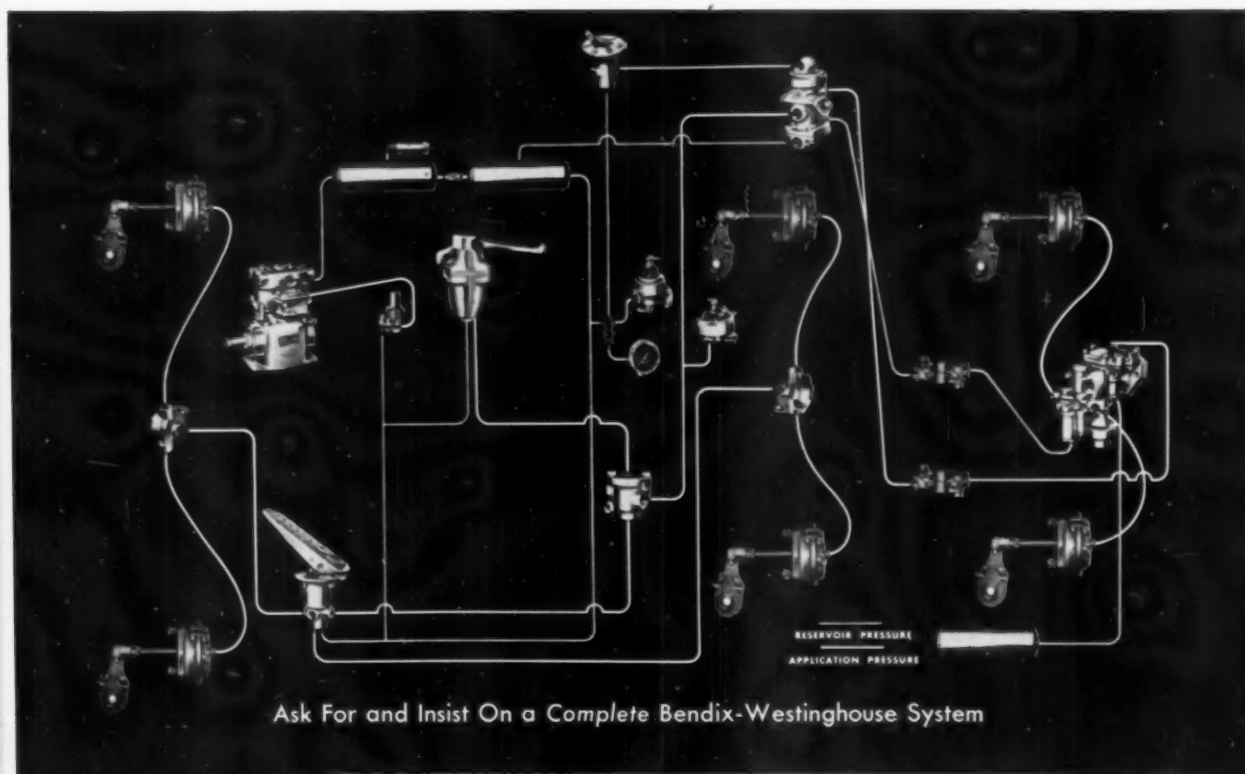
Putting it to the test is one way of finding out. Another, and by far the safest way, is to buy a reliable chain in the first place. A chain with safety-forged, matched links—designed and built to perform dependably under the roughest treatment. This is true also when you buy the chain of devices that comprise an air brake system.

When you specify Bendix-Westinghouse Air Brakes, you can shelve your worries, for you are buying a chain whose proven performance—over more than three decades—is unmatched by any other brake system. It is a *complete* chain because every device, every single component, is designed and built to perform a specific function with peak efficiency in a *closely related* system.

When you buy a *complete* Bendix-Westinghouse Air Brake system you buy a system for whose reliability and long, trouble-free performance we accept full and complete responsibility. Truck and fleet operators know this. That is why more trucks and buses are equipped with

complete Bendix-Westinghouse Air Brake systems than by all other makes combined.

Another durable link in the Bendix-Westinghouse chain is our nation-wide network of franchised distributors. Anywhere your vehicles go there is a qualified distributor with trained, expert service personnel, and a complete stock of replacement parts to serve your needs. Only Bendix-Westinghouse provides so broad a service. This, plus our economical repair-exchange service, a liberal warranty policy and numerous other exclusives are but a few of the many reasons why it pays to buy air brakes built by Bendix-Westinghouse.



Ask For and Insist On a Complete Bendix-Westinghouse System

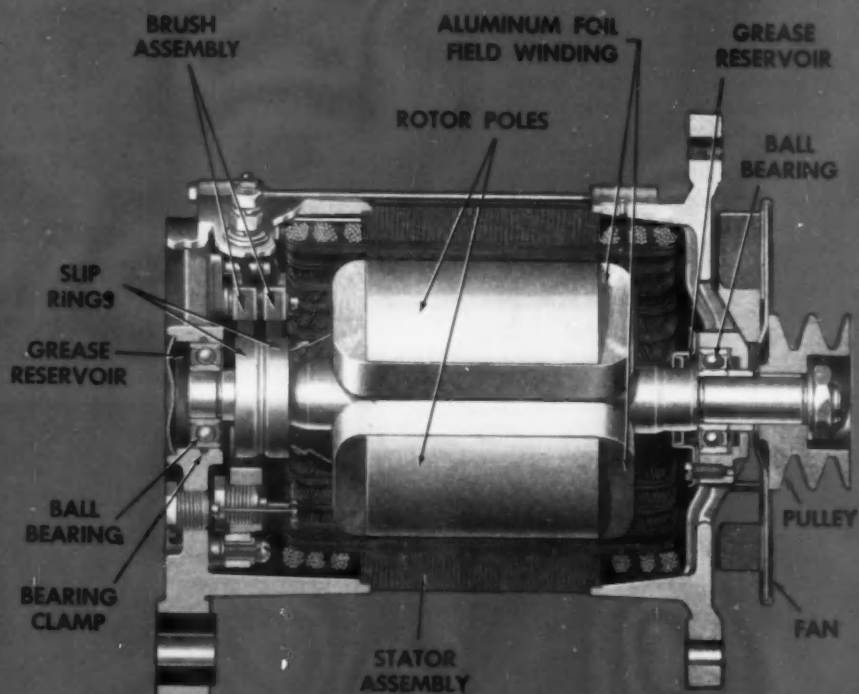
Bendix-Westinghouse



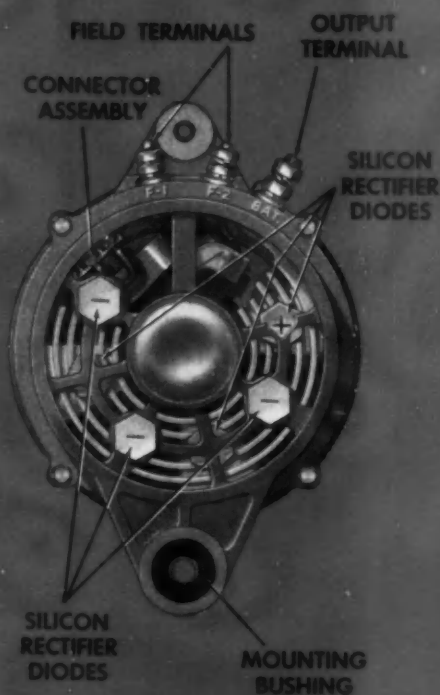
AUTOMOTIVE AIR BRAKE COMPANY

General offices and factory—Elyria, Ohio. Branches—Berkeley, Calif. and Oklahoma City, Okla.

NOW! REAL CHARGE-AT-IDLE,

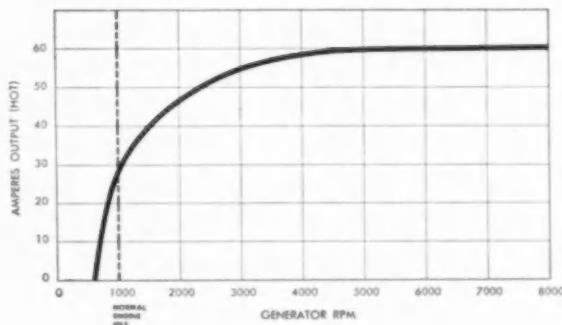
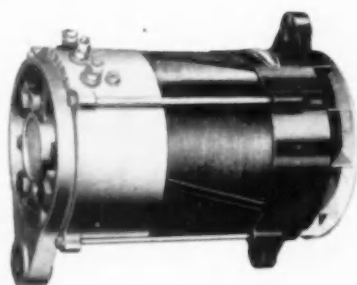


PROGRESSIVE
ENGINEERING
MAKES
THE
DIFFERENCE



UP TO TWICE THE TOTAL OUTPUT

WHEN YOU REPLACE STANDARD D.C. EQUIPMENT WITH DELCO-REMY'S NEW SELF-RECTIFYING A.C. GENERATOR



Here's a completely new generator from Delco-Remy *specifically designed* to take care of cars and trucks with extra-heavy electrical loads under all traffic conditions . . . to increase battery life by eliminating deep cycling.

Designed to mount interchangeably with most standard d.c. generators, this compact new unit is only 5 $\frac{3}{4}$ " in diameter and weighs just 31 pounds. The a.c. design eliminates commutation problems, providing extra-long brush life . . . and the ball bearings are "lifetime" lubricated so that no attention is required between engine overhaul periods. Six specially developed silicon rectifiers built into the end frame eliminate the need for space-consuming external rectifier units, reducing installation time and cost to a minimum.

Be sure to specify this new self-rectifying a.c. generator along with its companion transistor regulator (either full or transistorized model) on your new special-duty equipment for 1959. This all-new power team is still another example of Delco-Remy progressive engineering at work for you.



GENERAL MOTORS LEADS THE WAY—STARTING WITH **Delco-Remy** ELECTRICAL SYSTEMS

DELCO-REMY

• DIVISION OF GENERAL MOTORS

• ANDERSON, INDIANA

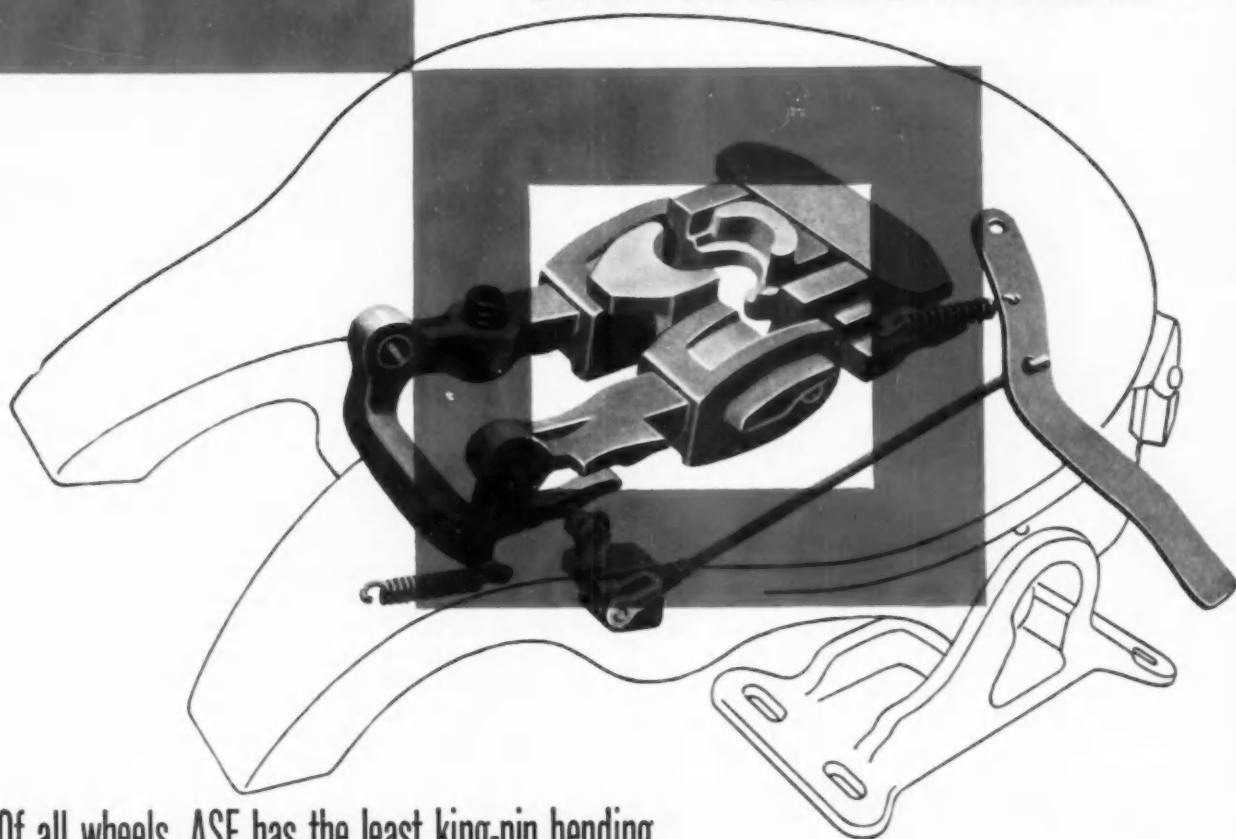
1958 New Truck Registrations

STATE AND MONTH	Brockway	Chevrolet	Diamond T	Divco	Dodge	Ford	FWD	GMC	International	Kenworth	Mack	Peterbilt	Studebaker	White	Willys Jeep	Willys Truck	Misc. Dom.	Foreign	Total
Alabama	Sept. 403	2	2	34	267	218	142	61	13	8	5	40	1,212						
9 Mos.	3897	20	16	370	2422	1	1017	1014	1	363	13	83	40	58	306	9,621			
Arizona	Sept. 305	11	15	347	1786	2	508	478	32	21	8	29	37	61	119	15	234	6,153	
9 Mos.	2382	15	6	374	2653	2	815	996	85	48	71	45	38	3	32	9,050			
Arkansas	Sept. 1846	131	89	2742	17860	24	3270	3736	127	187	186	318	531	493	629	68	4149	53,114	
California	Sept. 3048	19	26	587	2521	6	41	67	11	6	1	8	2	47	50	15	1,012		
9 Mos.	3231	146	5	3	19	478	931	39	75	16	57	60	271	371	28	101	9,130		
Colorado	Sept. 19	1330	21	27	276	936	3	478	603	104	18	156	92	181	1	68	525		
Connecticut	Sept. 67	25	2	96	332	88	278	1	86	4	104	20	17	5	4	40	1,677		
Delaware	Sept. 3	577	25	2	96	332	88	278	1	86	4	104	20	17	5	4	40	1,677	
District of Columbia	Sept. 90	7	3	13	86	32	7	6	1	6	7	2	38	1	86	1,695			
Florida	Sept. 557	20	20	90	563	157	108	46	7	83	29	69	167	2,220					
9 Mos.	860	5536	87	137	540	4080	38	1276	2553	3	386	94	477	228	451	2	1180	16,856	
Georgia	Sept. 512	24	16	603	4369	1078	1446	9	257	53	172	68	88	2	395	13,618			
Idaho	Sept. 189	2	2	35	142	78	89	6	23	70	31	171	2	9	583				
Illinois	Sept. 1893	8	4	292	1056	5	483	720	40	26	1	70	31	171	2	9	583		
9 Mos.	796	17	12	88	785	171	445	29	16	48	15	35	5	105	2,569				
Indiana	Sept. 7543	253	73	1210	6636	28	1617	4112	369	153	390	119	316	91	675	23,585			
9 Mos.	385	2	7	81	364	1012	232	20	331	1	217	364	41	163	41	236	1,470		
Iowa	Sept. 1	4687	66	71	765	3727	3	1012	206	9	4	2	10	34	1,100				
9 Mos.	335	18	4	45	389	2	102	181	9	68	60	82	17	73	1	191	10,808		
Kansas	Sept. 3987	149	28	491	3191	3	608	1850	9	68	60	82	17	73	1	191	10,808		
9 Mos.	415	5	4	402	3481	3	776	1411	10	41	86	74	35	190	4	110	10,867		
Kentucky	Sept. 4322	38	4	402	3481	3	776	1411	10	41	86	74	35	190	4	110	10,867		
9 Mos.	385	39	226	100	145	15	100	145	15	4	11	20	10	23	980				
Louisiana	Sept. 3208	13	7	478	2302	1	773	1020	94	33	96	77	97	129	8,328				
9 Mos.	585	2	38	542	1189	2	25	2	25	2	8	8	7	55	1,523				
Maine	Sept. 5201	56	403	3893	892	1189	6	139	11	37	79	72	62	294	12,323				
9 Mos.	2	150	1	2	18	101	53	82	11	58	40	33	78	146	2	119	9,371		
Maryland	Sept. 11	1022	3	27	152	821	308	678	110	29	20	126	49	112	6	258	6,505		
9 Mos.	6	210	1	59	246	82	110	29	20	126	49	112	6	258	6,505				
Massachusetts	Sept. 20	221	15	17	446	1749	467	833	176	29	20	126	49	112	6	258	6,505		
9 Mos.	7	269	2	3	39	231	111	102	25	1	64	21	28	43	946				
Michigan	Sept. 42	1912	11	38	491	2056	2	164	198	193	1	26	240	124	283	17	478	7,543	
9 Mos.	570	11	14	114	658	2	164	198	193	1	26	240	124	283	17	478	7,543		
Minnesota	Sept. 5547	80	111	1194	5302	17	1193	1346	272	10	23	19	55	2	114	1,983			
9 Mos.	298	4	5	32	328	96	211	5	17	1	6	5	21	674	16,496				
Mississippi	Sept. 3589	47	39	575	3621	7	755	1788	9	100	1	120	73	23	85	8	278	11,074	
9 Mos.	3336	7	182	28	499	140	118	9	43	27	19	43	20	1	73	8,085			
Missouri	Sept. 592	13	1	57	2796	675	881	2	22	5	16	6	23	1	38	1,653			
9 Mos.	6323	62	1	605	4289	1	1405	1958	4	196	84	255	74	129	9	251	15,652		
Montana	Sept. 155	7	1	305	1269	3	346	845	16	38	1	47	46	85	242	20	561		
9 Mos.	1344	189	9	25	220	2	55	165	25	16	4	6	11	23	1	119	4,717		
Nebraska	Sept. 2612	93	14	302	2029	5	524	1285	43	51	21	41	95	71	126	4	103	7,419	
9 Mos.	500	51	1	23	39	1	21	39	14	3	3	7	10	51	254				
Nevada	Sept. 51	2	16	138	450	1	164	271	54	33	25	64	127	11	193	2,168			
New Hampshire	Sept. 4	615	2	16	138	450	1	164	271	54	33	25	64	127	11	193	2,168		
9 Mos.	13	237	14	9	69	286	141	150	57	26	26	69	2	128	1,227				
New Jersey	Sept. 123	3620	102	181	678	3065	15	1300	1478	5	394	38	521	151	404	15	835	13,127	
New Mexico	Sept. 355	10	1	311	1617	2	78	55	2	10	2	17	18	1	12	829			
9 Mos.	2484	10	1	311	1617	2	78	55	2	10	2	17	18	1	12	829			
New York	Sept. 49	755	6	14	154	658	3	227	523	9	73	33	33	66	118	3	61	5,985	
9 Mos.	291	7139	86	177	1852	6263	37	2050	4066	2	635	115	836	438	931	89	1879	27,586	
North Carolina	Sept. 504	3	2	51	569	116	184	54	379	67	259	114	117	1	2	237	13,508		
9 Mos.	4982	97	24	593	4216	3	958	1461	53	1	1	1	1	2	37	3,714			
North Dakota	Sept. 128	2	6	242	1041	239	952	11	38	4	9	23	2	37	3,714				
Ohio	Sept. 1	1100	10	6	282	1041	239	952	11	38	4	9	23	2	37	3,714			
9 Mos.	6	6407	121	113	1275	5799	16	1757	2788	419	53	3	78	15	52	3	127	2,135	
Oklahoma	Sept. 568	1	4	33	211	90	130	14	7	3	13	13	67	1	19	64	974		
9 Mos.	5057	8	1	389	3585	1	828	1227	2	89	5	14	6	11	1	22	1,404		
Oregon*	Sept. 305	1	4	33	211	90	130	14	7	3	13	13	67	1	19	64	974		
9 Mos.	2369	8	14	347	1895	827	1226	52	128	32	70	98	384	1	278	343	7,037		
Pennsylvania	Sept. 25	836	20	15	192	608	1	266	449	1	99	17	63	57	102	6	279	3,881	
9 Mos.	120	7111	146	144	2041	5729	6	1624	3637	1	974	217	604	375	829	17	1187	24,962	
Rhode Island	Sept. 3	327	5	9	84	1023	138	215	5	65	1	1	2	2	20	175			
9 Mos.	259	1	1	31	185	55	52	22	1	14	6	32	12	28	1	145	2,093		
South Carolina	Sept. 1	2445	1	4	249	1661	371	489	170	18	82	29	38	6	26	658			
9 Mos.	134	1	30	122	1251	3	300	970	2	11	57	12	35	88	5	5	481		
South Dakota	Sept. 328	13	5	229	1251	3	300	970	2	11	57	12	35	88	5	5	481		
Tennessee	Sept. 3739	10	7	441	2644	388	562	12	39	1	23	48	52	36	4	62	5,230		
9 Mos.	2199	6	1	167	1610	1	45	66	2	4	1	3	6	2	5	1	11	403	
Texas	Sept. 21597	102	7	1680	13927	3	2999	4757	22	462	8	238	965	282	297	19	516	47,902	
Utah	Sept. 127	1	3	328	968	1	384	534	31	37	20	22	47	55	64	14	89	3,027	
Vermont	Sept. 54	10	3	328	968	1	384	534	31	37	20	22	47	55	64	14	89	3,027	
9 Mos.	2	507	4	89	435	192	307	16	17	13	86	145	2	115	1,936				
Virginia	Sept. 392	1	7	46	422	68	161	39	3	65	156	76	243	2	336	10,301			
9 Mos.	3630	20	20	628	3016	2	801	1149	112	66	14	60	46	70	192	5	614	8,733	
Washington	Sept. 261	19	29	504	2371	12	801	1149	112	66	14	60	46	70	192	5	614	8,733	
9 Mos.	2689	19	29	504	2371	12	801	1149	112	66	14	60	46	70	192	5	614	8,733	
West Virginia	Sept. 259	1	5	71	278	1	74	85	19	19	7	17	7	13	1	40	1,057		
9 Mos.	1774	21	28	404	1485	2	486	560	81	60	67	154	262	3	136	5,534			
Wisconsin	Sept. 338	1	4	43	270	1	75	215	1	179	64	123	70	158	14	407	10,414		
9 Mos.	3468	38	37	492	2646	24	766	70	1	2	3	1	11	26	1	11	382		
Wyoming	Sept. 104	5	166	782	303	429	17	24	1	26	21	63	150	1	61	3,005			
9 Mos.																			

MATCH



**the ASF king-pin grip
with any other
5th wheel made!**



Of all wheels, ASF has the least king-pin bending leverage...because ASF jaws grip the pin at the top!

The further down you grip a trailer's king-pin, the more bending leverage you get. That's why—right from the beginning—ASF jaws were designed to grip the pin at the top, practically where it joins the bed plate. No twisting stress here; you always get a *straight-line pull!*

Incidentally, note the size of the king-pin bearing area . . . how the pin nestles in the jaw in almost complete contact. This bearing area is the largest of any 5th wheel made. It means that you get longer life from jaws and king-pin.

This isn't the only advantage of ASF Wheels, of course. See your nearest ASF Distributor for more facts on this outstanding wheel . . . or write: American Steel Foundries, Hammond Division, Hammond, Indiana.

Make an investment in safety...with

ASF
safety 5th wheels

A product of American Steel Foundries



"Our fleet, running between New York City and Pennsylvania over the most heavily traveled highways in the world, faces the dual problem of maintaining our delivery schedule and at the same time preserving our safe driving record. After years of experimenting with various tires, we finally settled on Kelly 'Super Armor Trac' as best suited for helping us solve these problems. They are providing excellent original mileage and the casings can usually be re-capped several times, giving us a very satisfactory 'cost-per-mile.'"

Anthony LaMotta, President
Easton Motor Freight, Inc., Easton, Pa.



"We have been using Kelly-Springfield Tires for many years and in recent years have used the Dual Trac and Super Armor Trac Nylon which have given us outstanding service. We also request Kellys on our Low Bed Trailers which haul our heavy equipment because we know that they can take the punishment which tires have to take on this type of operation."

J. W. Thompson
Thompson-Arthur Paving Company, Greensboro, N. C.



"We have been using Kelly-Springfield Tires on our trucks and Low Bed Trailers for more years than we can accurately remember and we can truthfully say that they have consistently done an outstanding job in rugged excavation work. Your new nylon Dual Trac is performing even better than the original Dual Trac design."

Dewey Nami
Nami Brothers, Mercerville, N. J.

Looking for Nylon Truck Tire Economy?

KELLY HAS IT!

No matter what type of trucking you do, Kelly has exactly the Nylon Cord Tire that will deliver more original mileage, more mileage on recaps—to give you the most for your tire money on a cost-per-mile basis. That's why Kelly Nylon Cord Tires are used exclusively on so many trucks and fleets of trucks all over America. It will be worth your while to find out how these tougher, longer-lasting Kellys can bring you safer, more dependable service at lower cost. See your Kelly Dealer or write to: The Kelly-Springfield Tire Co., Cumberland, Maryland.

THERE'S A TOUGH KELLY
FOR EVERY TRUCKING JOB!





Howard Rhea, owner,
Dehy Alfalfa Mills, Inc.,
Fremont, Nebraska

"We're getting good mileage, good power besides saving money with Philgas!"

Dehy Alfalfa Mills operates 11 trucks on Philgas,* hauling from field to mill. "Our trucks get the roughest kind of usage," Mr. Rhea reports. "During peak season these trucks work 24 hours a day. Since using Philgas, our trucks have vastly increased the mileage between major overhauls. We're getting good mileage, good power besides saving

money with Philgas."

Mr. Rhea, who is director of the Nebraska Dehydrators Association and treasurer of KEY Dehydrators, knows a good thing when he sees it . . . that's why he uses Philgas. It will pay you to use Philgas for your trucks, the same as Mr. Rhea and other successful operators. Call or write for full details today.

*Philgas is the Phillips Petroleum Company trademark for its high quality LP-Gas (propane, butane).



PHILLIPS PETROLEUM COMPANY

SALES DEPARTMENT

Bartlesville, Oklahoma

SALES OFFICES:

AMARILLO, TEX.—First Nat'l Bank Bldg.
ATLANTA, GA.—1428 West Peachtree St.
Station "C" P.O. Box 7313
CHICAGO, ILL.—7 South Dearborn St.
DENVER, COLO.—1375 Kearney St.
DES MOINES, IOWA—6th Floor, Hubbell Bldg.

HOUSTON, TEX.—6910 Fannin St.
INDIANAPOLIS, IND.—3839 Meadows Drive
KANSAS CITY, MO.—201 E. Armour Blvd.
MINNEAPOLIS, MINN.—215 South 11th St.
NEW YORK, N. Y.—80 Broadway
OMAHA, NEB.—3212 Dodge Street

RALEIGH, N. C.—401 Oberlin Road
SALT LAKE CITY, UTAH—68 South Main
ST. LOUIS, MO.—4251 Lindell Blvd.
TAMPA, FLA.—3737 Neptune St.
TULSA, OKLA.—1708 Ulrica Square
WICHITA, KAN.—501 KFH Building

CCJ BULLETIN BOARD

It Could Be Verse

1



THESE LITTLE RHYMES
MAY MAKE YOU GRIN

2



WE ALSO HOPE THEY'LL
SAVE YOUR SKIN

3



ICE ON ROAD
SLICK AS GLASS

4



SKID YOUR RIG AND
WE'LL CHEW YOUR (ANKLE)

5



SINCE YOUR NAME
AIN'T SANTA CLAUS

6



REMEMBER, BUD
OBEY THE LAWS

7



UNLESS YOU HAVE
SOME PARTS TO SPARE

8



WORK WITH CAUTION
DRIVE WITH CARE

9



WATCH THAT WALKER
BETTER STOP

10



HE'S SIX FEET TWO
AND HE'S A COP

11



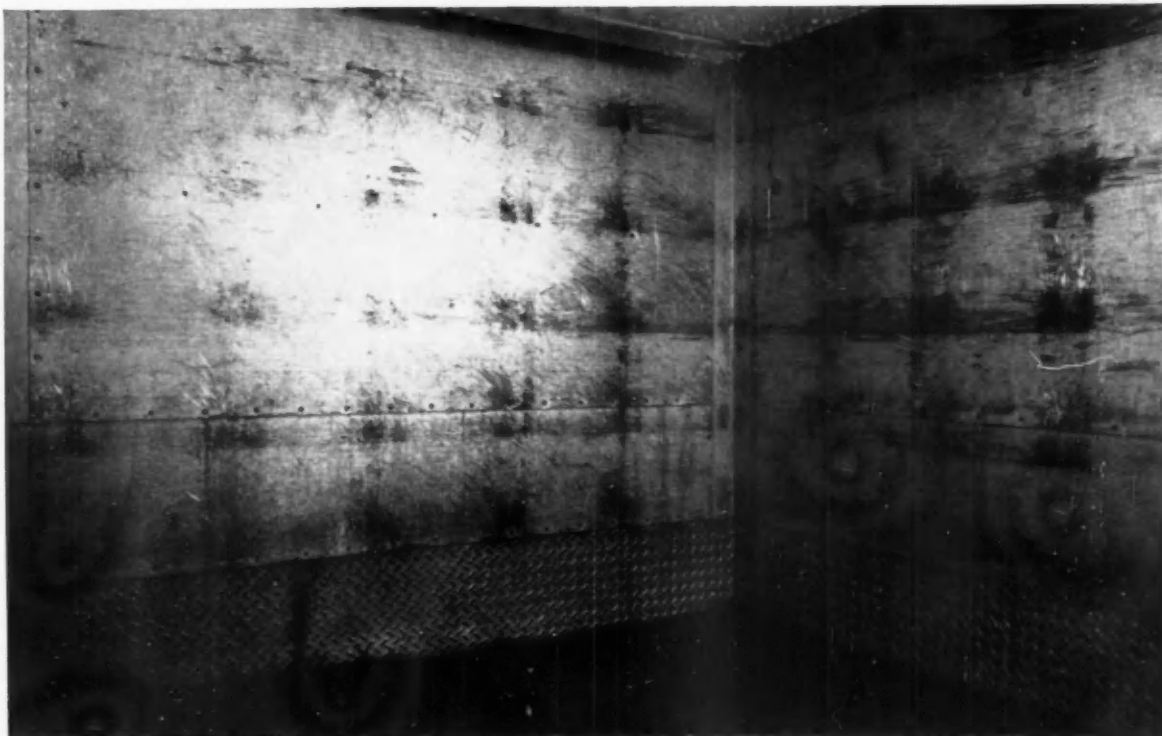
'TIS THE SEASON
TO BE JOLLY

12



BUT DRINKIN' DRIVIN'
SURE IS FOLLY

CLIP AND POST ON YOUR OWN BULLETIN BOARD — REPRINTS AVAILABLE AT NOMINAL COST



Wall and ceiling liners of 20 gage Armco ALUMINIZED STEEL have served for 3 years in this Page truck. Strength of ALUMINIZED STEEL makes back-up panels unnecessary. Sheets are attached directly to the frame.

"Truck body liners of Armco ALUMINIZED STEEL are the most durable we've ever used"...

... says Mr. D. H. Eggl, Fleet Superintendent, Page Dairy Company, Toledo, Ohio

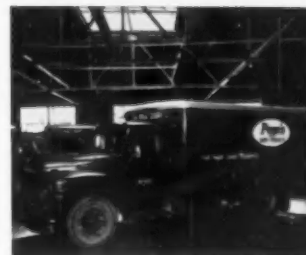
"Body liners of our wholesale delivery trucks take an inevitable daily beating from scraping, jolting milk cases, both in loading and transit. At the same time, occasional product spillage and condensed refrigeration moisture add the attack of corrosion.

"But even under these rugged service conditions, wall and ceiling liners of Armco ALUMINIZED STEEL hold up better than any we've ever used. ALUMINIZED STEEL linings are still in excellent condition after three years of heavy-duty service. There has been no tearing, no noticeable denting. Only superficial surface marks testify to punishing abrasion from crates. No liners of ALUMINIZED STEEL show the severe damage we have experienced with linings made from softer metals."

STRONG, CORROSION-RESISTANT

Armco ALUMINIZED STEEL links sturdy strength with superior resistance to atmospheric corrosion — an ideal com-

bination for critical parts of truck and bus bodies. For more information about this special hot-dip aluminum coated steel, fill in and mail the coupon.



ARMCO STEEL CORPORATION, 7028 Curtis St., Middletown, Ohio

Send more information about ALUMINIZED STEEL Type 2

We're interested in its use for _____

New
steels are
born at
Armco

NAME _____

TITLE _____

FIRM _____

STREET _____

CITY _____

ZONE _____

STATE _____

ARMCO STEEL

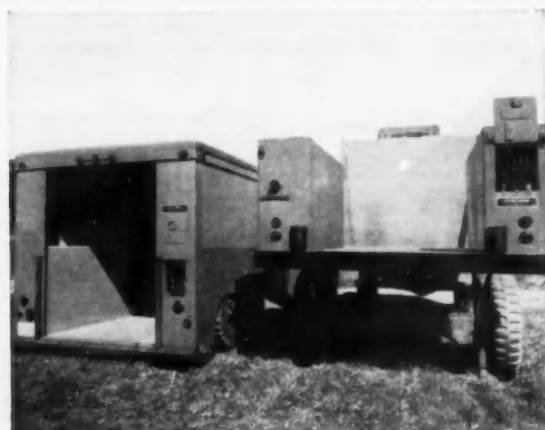


Armco Division • Sheffield Division • The National Supply Company • Armco Drainage & Metal Products, Inc. • The Armco International Corporation • Union Wire Rope Corporation • Southwest Steel Products



It tilts...it leans...it hunches up and down

Unique truck built with **USS** COR-TEN Steel



The Thompson Level-Loder raises and lowers to any height from curb side to $4\frac{1}{2}$ '. Hydraulic cylinders lift the body up and down in a vertical guide mounted on the truck cab. Thompson Trailer Corp., Pikesville, Maryland, a subsidiary of General American Transportation Corp., Chicago, introduced the new design.

Here's a truck body that acts like an elevator. With front wheel drive, it has no rear axle or drive shaft. Hydraulic cylinders tilt it forward, backward, sideways, and raise it up and down to any height from curb level to $4\frac{1}{2}$ feet. This cuts loading time as much as 75% and makes unloading up to five times faster.

Because the main stress of the lift is concentrated at the wheel box housings, they have to be as strong as possible. And because the truck body is lifted along with the payload, the body has to be as light as possible. The entire body, including the wheel housings, was built with USS COR-TEN High-Strength Low-Alloy Steel because COR-TEN Steel meets the demands of both lightness and extra strength. COR-TEN Steel's 50% higher yield point means it can be used in thinner and lighter gages, reducing weight as much as $\frac{1}{3}$ with no sacrifice in strength. And it has high resistance to abrasion, corrosion, impact and fatigue.

High Strength Steels also reduce the weight of conventional trucks and bodies. And remember, lighter truck-weight means a heavier legal payload. Ask your equipment supplier about construction with all three brands of USS High Strength Steels—COR-TEN, TRI-TEN, and MAN-TEN. Each has characteristics that make it ideal for special applications in trucks and bodies. Ask, too, about USS "T-1" Constructional Alloy Steel and USS Stainless Steel. See how this "family of steels that do more" can improve your fleet.

USS, Cor-Ten, Tri-Ten, Man-Ten, and "T-1" are registered trademarks

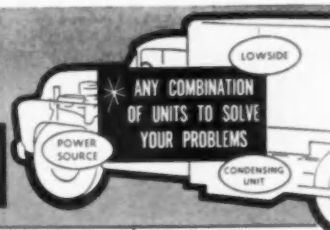


United States Steel Corporation—Pittsburgh
American Steel & Wire—Cleveland
Columbia-Geneva Steel—San Francisco
Tennessee Coal & Iron—Fairfield, Alabama
United States Steel Supply—Steel Service Centers
United States Steel Export Company

United States Steel

COMMERCIAL CAR JOURNAL, December, 1958

KOLD-HOLD[®] TRUCK REFRIGERATION



MARK
mechanical

CROWN
hydraulic

LANCE
retail milk

CREST
packaged condensing unit

BLOWERS
hi and low temp

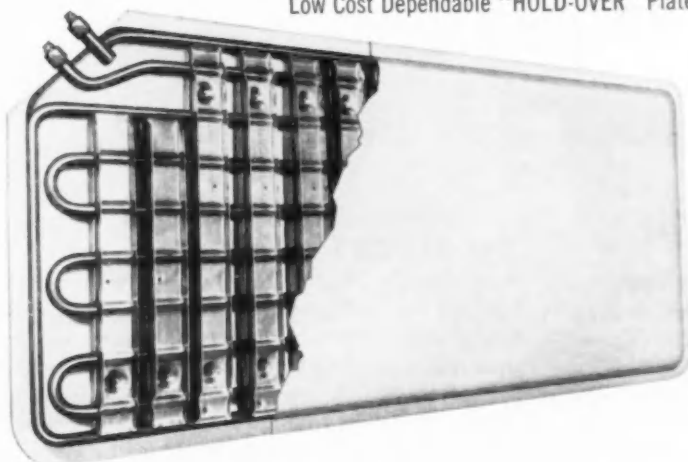
PLATES
quick action and hold-over

ENGINEERED TO THE NEED— MINIMIZES MAINTENANCE PROBLEMS

A complete line of drives, low sides and high sides makes it possible for KOLD-HOLD to engineer refrigeration systems that match the operating requirements of the individual truck. The right units are selected to meet the body size and temperature required, length of route, number of stops, road time versus "curb time" and many other variable factors. The result is a refrigeration system with the capacity to provide plenty of protection for the load without exceeding the mechanical ability of the system. This carefully built type of refrigeration system is paying off for thousands of satisfied users in unfailing load protection with minimum truck "down time" and maintenance.

Ask your KOLD-HOLD man to help you analyze your truck refrigeration problems. It will pay to invest in equipment tailored to your needs.

Low Cost Dependable "HOLD-OVER" Plates

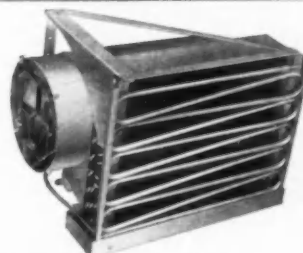


Modern, streamlined KOLD-HOLD "hold-over" plates provide bonus refrigeration for lasting load protection. They are designed to save weight as well as to give you all the refrigeration you need.

The streamlined design produces exceptionally effective air flow. Internal fins spread the heat absorption qualities over the entire surface areas of both sides of the plate. Patented perimeter freezing permits **complete** filling of the plates without danger of strain on the seams during freezing. This means more "hold-over" refrigeration than provided by conventional plates of the same size.

KOLD-HOLD "Hold-Over" Plates are available in 1", 1½", 2", 2¾" and 3¼" thicknesses; sizes in 18" to 36" widths and 30" to 120" in length; capacities to 42,000 BTU. They can be used with KOLD-HOLD MARK and CROWN continuous truck refrigeration condensing units or for virtually every application with make-and-break connections or mounted compressor where continuous refrigeration is not required.

For trouble-free, economical "hold-over" refrigeration in trucks requiring temperatures from -10° to +60°, use the most advanced plate on the market today — KOLD-HOLD "Hold-Over" Plates.



NEW DESIGN PRODUCES SUPERIOR REFRIGERATION

The KOLD-HOLD TURBO-JET Blower provides maximum efficiency, using the "JET" (duct-air) principle of moving air in a truck body. Movement of more air through the coil and more effective movement of air through the truck body than produced by blowers of comparable size produces faster temperature pull down. Defrosting is automatic and is accomplished without a high upswing in body temperatures.



PROVEN POWER SOURCE for MECHANICAL DRIVE

The flexible shaft drive system used in KOLD-HOLD MARK AND LANCE systems has proved simple and trouble-free in many automotive applications. Power is transmitted from the truck engine crankshaft through the flexible shaft and a cushioning electric clutch.

PACKAGED CONDENSING UNIT



This KOLD-HOLD unit is a complete high-side ready for installation and use in freezing "hold-over" plates. It features easy installation and servicing.

Plugs into electrical outlet to freeze plates in truck on "stand-by" or over night.

WRITE TODAY FOR
FREE CATALOG NO. 58



KOLD-HOLD[®]

division

Tranter Manufacturing, inc.

230 E. Hazel St.

Lansing 9, Michigan

IT CAN'T BE DONE? IT WAS ... BY HACKNEY!



**This Hackney Refrigerated Trailer
Came Through a "Sweat-Box" Test
With Superior Temperature Performance.**

THE TEST . . .

This trailer was subjected to 110° temperature at 70% relative humidity for a 31 day period (a 31 day "sweat-box" test)

WHAT HACKNEY DID . . .

Selected proper insulating materials, then protected these materials by a scientifically developed application of plastic-foil laminate to reduce air infiltration and vapor diffusion. HACKNEY'S SPECIALIZED WORKMEN installed these materials under compression and without voids according to HACKNEY'S normal engineering standards which far exceed the usual standards.

THE RESULTS . . .

Heat transfer rates after the test were exceptionally low and the performance was within computations for nearly 100% efficiency in b.t.u.'s. Proper temperatures were maintained at all points in the body for the duration of the punishing test. Air infiltration under the severe conditions of high humidity was down to only 66 cubic feet per hour as indicated by gross weights taken constantly during the entire period of the test.

**ALL HACKNEY BODIES ARE PRODUCED WITH THIS SAME CARE.
SEE HACKNEY FIRST FOR YOUR
REFRIGERATOR BODY REQUIREMENTS.**



HACKNEY BROS. BODY CO.
WILSON, N. C. PHONE 7-0105

BUILDERS OF BETTER BODIES SINCE 1854

7!

You'll find
what you want
in bearings
of



ALCOA ALUMINUM ALLOY

Ability to carry heavy loads . . . up to 10,000 psi on projected area.

Cooler Running . . . Aluminum is the best heat conductor among bearing materials, thus runs cooler . . . as much as 20° by actual test.

Good Conformability . . . Aluminum has good ductility, conforms readily to misalignment of shafts or nonparallel pins.

Ideal Embeddability . . . Aluminum embeds particles better than bronze, not as deeply as babbitt; dirt particles roll out easily and are trapped by filter.

Corrosion Resistance . . . Aluminum resists corrosion, is unaffected by additives in oils, needs no protective coating.

Design Flexibility . . . Aluminum has it; structural properties allow for greater flexibility in design . . . ease of machinability, too!

For more information on the unmatched combination of advantages in solid aluminum alloy bearings, call your nearest Alcoa sales office. Or, write to Aluminum Company of America, 1920-M Alcoa Building, Pittsburgh 19, Pennsylvania.



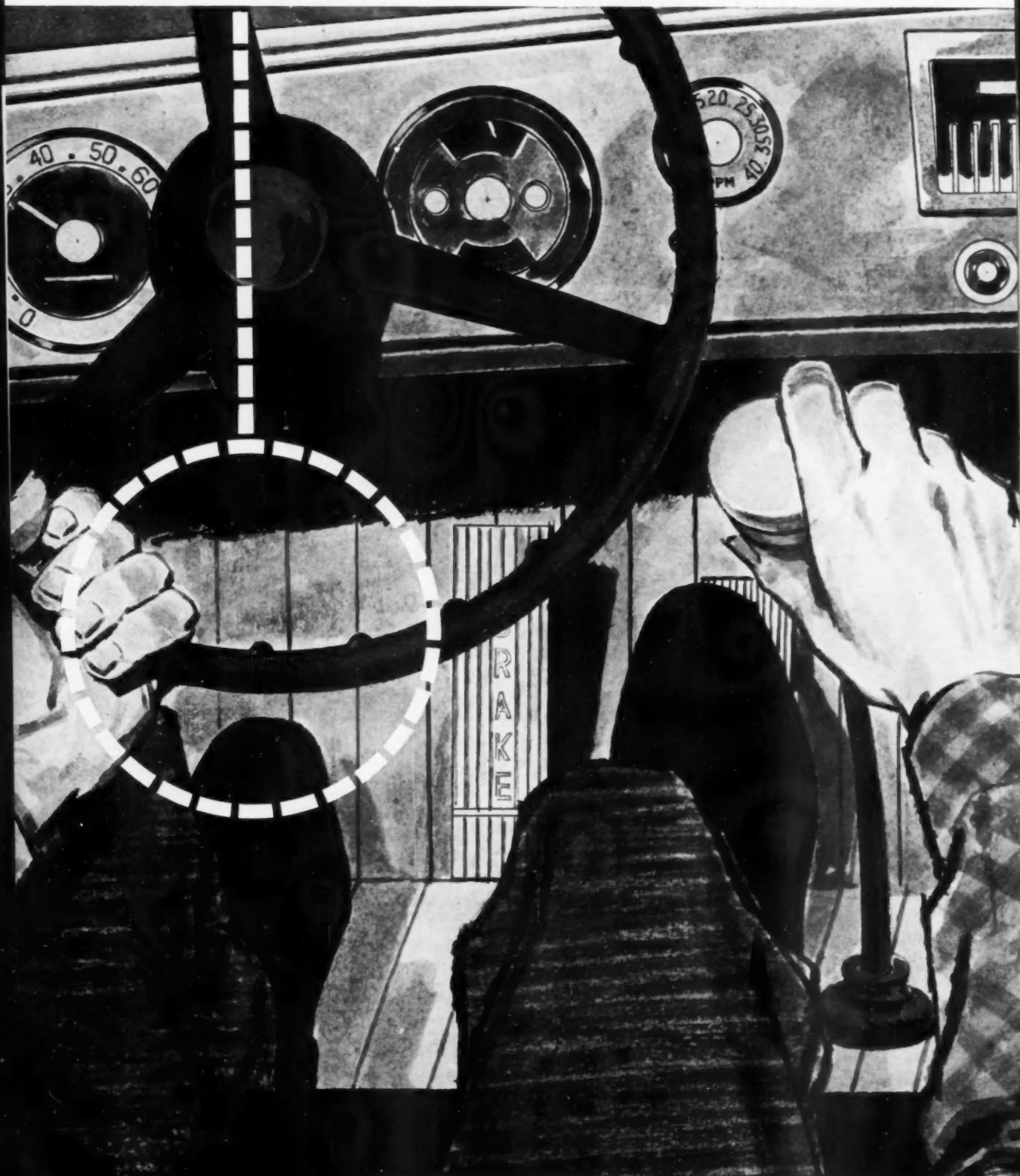
**Your Guide
to the Best in Aluminum Value**



ALCOA THEATRE
Fine Entertainment!
Alternate Monday Evenings

the clutch is in but the pedal's out...it's

Spicer's New Presto-



matic* Transmission

*...with the touch-button control
that takes the effort out of driving.*

Here's the Semi-Automatic Truck Transmission that's
Got Everything. . . Yet its Cost is the Lowest!

No clutch pedal . . . it's been replaced by a simple touch-button switch on top of the shift control lever. Touch the gearshift knob and the clutch is disengaged . . . automatically!

Smooth engagement from a standing start . . . without using a clutch pedal . . . because the Presto-matic Transmission automatically engages as the driver presses the accelerator.

Automatic clutch throw-out when the engine returns to idling speed. The driver can inch along in heavy traffic just as he would with a fully automatic transmission.

Lowest initial cost . . . absolutely the lowest . . . of any semi-automatic transmission system on the market.

Maximum fuel economy found only in a transmission-clutch system. And, the driver controls the gear he's in for top fuel economy in every situation.

Minimum maintenance because there are no moving parts or adjustments to be made in the automatic control mechanism. Clutch life is greatly increased since the driver can't overspeed the engine when engaging the clutch.

Maximum durability achieved through selection of simple components that have been time-tested and proved as a complete, tailored assembly.

Greater safety for the driver and his equipment because the Presto-matic Transmission leaves gear selection in the hands of the driver at all times.

Simplifies chassis design by eliminating many of the remote control linkage problems found in Cab-Over-Engine or Tilt-Cab installations.

Write now for a free illustrated booklet containing complete information on the operational advantage of the remarkable NEW PRESTO-MATIC TRANSMISSION. The address is Dana Corporation, Toledo 1, Ohio.



DANA CORPORATION

TOLEDO 1, OHIO

*Patent Pending

4000 Sealing Valve Core

8106B Trutest Special Gauge checks all other gauges

7100BH All-Purpose Service Gauge for all service needs

800 Sealing Valve Cap

Service package of 100 Schrader Caps

Service package of 100 Schrader Cores

**Good fleet shop practice
pays off with
GENUINE
SCHRADER
TIRE VALVES, CAPS,
CORES, AND GAUGES**

Most flats give ample warning for you to catch 'em in the shop. And keeping valves always capped and properly cored should be a must in your fleet's shop practice. Make it a rule to:

- 1 Specify genuine Schrader Tire Valves, Sealing Caps and Cores, which are guaranteed airtight even at 250 pounds pressure.
- 2 Keep stocked on Schrader Caps and Cores with handy service packages and see that every valve is always capped.
- 3 Gauge and record air pressures daily with genuine Schrader gauges to catch unusual pressure drops.

And, remember, Schrader Chucks, Couplers, Chuck Gauges and Accessories help airlines operate faster and better.

A. SCHRADER'S SON • BROOKLYN 38, N. Y.
Division of Scovill Manufacturing Company, Incorporated

Schrader
a division of **SCOVILL**

FIRST NAME IN TIRE VALVES
FOR ORIGINAL EQUIPMENT AND REPLACEMENT



TVA FACILITIES

- FLEET SHOPS
- DAMS
- STEAM POWER PLANTS
- FERTILIZER PLANTS

THIS IS **TVA**

25 YEARS OF FLEET PROGRESS

TENNESSEE VALLEY AUTHORITY

... uses trucks ... and passenger cars ... and heavy construction equipment. It uses a lot of them to do a big job well. It's a "fine dam fleet" ... and there's a lot of truth in the pun.

COMMERCIAL CAR JOURNAL's Mobile Editorial Team discovered this when it spent several days at TVA's Transportation Branch headquarters in Chattanooga and with its fleets in the field ... as shown in the map above. (TVA's main office is in Knoxville.) You can judge for yourself when you read the following pages.

You'll find useful ideas, regardless of your own type of operation. The TVA fleet has a variety of activities and equipment. And in all its activities, the basic aim is fleet efficiency.

To achieve this aim calls for alert management, watchful cost control, scientific vehicle selection and replacement, tailored vehicle maintenance, a mature safety program and a special PM program for construction rigs. In the past 25 years, TVA's Transportation Branch has sought bright ideas. It had to, because ...

A REPORT IN DEPTH BY

CCJ's Mobile Editorial Team

THERE'S COMPETITION



TVA Transportation Branch management and CCJ's Mobile Editorial Team. In clockwise order above are: Paul A. Murphy, (then CCJ technical editor, now in charge of Chilton Co.'s automotive repair manuals); Gilbert W. Stewart, TVA's Assistant Director of Information; W. R. Palmer, CCJ field staff; George H. Irish, Chief of the Branch; CCJ Editor Bart Rawson and Executive Editor Murray Simkins; and Charles C. Hudson, Assistant Chief of the Transportation Branch of TVA. The Result: This Story

Competition Spurs Management Search

THIS IS THE STORY of the Transportation Branch of the Tennessee Valley Authority. It's a fleet story. Regardless of your opinion of the TVA concept, as a fleet operator you can't afford to ignore its Transportation Branch. As a fleet operation, it's doing a big job—and doing it well.

How big? There are more than 2800 vehicles. They range in size from passenger cars to heavy-duty construction equipment, as shown in the list at right. They cover some 90,000 sq miles in seven states. Among the tasks they do: (1) Supply vehicles for a power system interlaced with 11,000 miles of transmission lines, (2) Provide transportation for operating personnel whose functions range from river regulation to land and forest conservation, (3) Provide heavy-duty equipment for construction projects.

Now celebrating its 25th anniversary TVA was created by Presidential action on May 18, 1933. Its prime task: To develop the potential of the Tennessee River for flood control, navigation, power and the soil resources for improved agriculture and forestry. The Transportation Branch supplied and maintained most of the automotive equipment used during construction and modernization of TVA's 26 dams, eight steam plants, eight locks and 650-mile navigation channel.

Chief of the Branch is George Irish. His assistant, at headquarters in Chattanooga, Tenn., is Charles Hudson. Both are well known in automotive engineering circles. Irish has long been active in the government's Interagency Motor Equipment Advisory Committee. Hudson is author of several articles in *COMMERCIAL CAR JOURNAL*. Between them, Irish and Hudson administer a group of 165 employees who are directly or indirectly responsible for selection, maintenance and—at times—the design of the Branch's automotive equipment. They're also responsible for TVA's airplanes, helicopters and construction rigs.

HERE'S THE FLEET

Sedans (Ford and Chevrolet)	796
Station Wagons (Ford and Willys)	30
Sedan Delivery (Chevrolet and Ford)	168
Personnel Carrying Trucks (Chevrolet)	83
Light Trucks (1/2, 3/4 & 1-ton Ford and Chevrolet—pickups, stakes, etc.)	562
Medium Trucks (2-ton Chevrolet and Ford)	191
Light Special Body Trucks (tankers, drill units, compressor carriers and oil filter press bodies on Chevrolet, Diamond T, Federal, Ford, FWD, GMC and International chassis)	24
Tractors (Chevrolet, Federal, Ford, IHC, Reo)	32



As Chief of the Transportation Branch George H. Irish heads a fleet of more than 2800 vehicles which operate in a seven-state area. The Branch has a variety of jobs, operates everything from scooters on up to construction rigs

THIS IS TVA

Report in depth by
CCJ's Mobile Editorial Team



for Efficiency

Competition is a factor in the fleet operation. This is no transportation monopoly. The fleet and its service facilities are set up to meet normal rather than peak needs. And even for normal requirements the Branch must do the job at a lower cost than commercial organizations or the work is farmed out. This principle applies both to supplying transportation and maintaining the equipment.

Despite the farm-out policy, the Branch uses some 50,000 sq ft of shop space to keep the fleet rolling. It has major shops at Knoxville, Chattanooga and Paris,

Tenn., and at Muscle Shoals near Sheffield, Ala. There are garages for routine service work at Columbia, Nashville, and Jackson, Tenn. In addition there are a number of mobile units for field servicing.

The fact that there is competition spurs the Transportation Branch to search for better ways to operate and maintain the fleet. To know when to farm out work to advantage, it has to know its own costs. To justify its existence, it has to develop specifications for jobs and equipment on which outside bidders can base their bids. And when the need arises, it must be able to design and build specialized equipment which cannot be purchased.

Maintenance rates high on the fleet's efficiency scale, of course. But fleet management knows that too much maintenance is almost as costly as too little.

REPLACEMENT POLICIES

Heavy Cargo Trucks (36,000-lb GVW stake bodies on Federal 55 MA and IHC L-212 chassis)	23
Scooters (Cushman models for in-plant maintenance)	14
Light 4 x 4's (Dodge, Ford, FWD and Willys)	92
Light 6 x 6's (IHC military model with sprayer)	54
Line Maintenance trucks (Ford, FWD 6 x 6's)	23
Line Construction trucks (Federal, IHC 4 x 2's)	67
Heavy Winch Trucks (Diamond T, Federal, IHC)	15
Dump Trucks (Chevrolet, Federal, Ford, IHC, Reo)	95
Forklifts (Clark, Hyster, Mobilift, Transport)	7
Trailers (pole, tank, cargo and special types)	238
Fire Engines	9

Airplanes (includes 5 Helicopters)	8
------------------------------------	---

... and the Construction Equipment

Crawler Tractors (Allis-Chalmers, Caterpillar, IHC)	80
Industrial Tractors	15
Air Compressors, Portable	56
Electric Welders, Portable	9
Concrete Mixers, Portable	5
Road Roller (Ingram 5-ton model)	1
Cranes and Shovels	7
Earth Borers	6
Gradalls	11

Engineered Standards

Guide Replacement Policies

ONE REASON TVA enjoys low cost-per-mile averages is that most vehicles are replaced before cost of operating them becomes excessive.

From past experience, the Transportation Branch has the data that shows average service life of each type of equipment. From this information a schedule of appraisal inspections has been developed. This sets the mileage or hours-of-service interval at which vehicles are considered for retirement. For light equipment, intervals range from 50,000 miles—or four years for sedans to 70,000 miles or five years for 1-ton panel trucks. Heavy equipment becomes due for appraisal on a time basis. It ranges from 5000 hours or six years for 2-ton trucks to 8000 hours or nine years for winch trucks.



Car above is typical of some 800 used by TVA's supervisors and service personnel. Standard models are used

As the vehicle nears the end of the average service life for its class, an appraisal inspection is scheduled. This is performed in the field, using the form shown at right. Results of the inspection are combined with

HERE'S HOW DECISIONS ARE MADE . . .

The principle is simple

1—When it would cost more per mile (or per hour) to repair and operate the old vehicle than to buy and operate a new one, then buy a new one.

2—When it would cost more per mile (or per hour) to buy and operate a new vehicle than to repair and operate the old one, then repair the old one.

The formulas are easy to use

1—Cost per mile (or per hour) to continue operating the old

$$\text{vehicle} = \frac{(1.3 \times a) + b - c}{x}$$

2—Cost per mile (or per hour) to buy and operate a new

$$\text{vehicle} = \frac{(2.6 \times a) - d - w}{y}$$

The values 1.3 and 2.6 are factors representing the current difference of about 24 per cent between the cost of TVA and the retail price of vehicles. The other symbols are

a = current cost of new vehicle delivered and ready to operate

b = estimated cost of repairing old vehicle

c = estimated salvage value of old vehicle at end of extended life if repairs are made

d = salvage value of new vehicle at end of its normal period of service

Note: In estimating "c" and "d" fleet records on the rate of usage are consulted.

w = current value of old vehicle in "as is" condition

x = total life of old vehicle if repaired

y = life of old vehicle to date plus estimated life of new vehicle.

Note: Values for "x" and "y" can be expressed as miles or hours, but the same measurement must be used for both values in any specific application of the formulas.

Here's how it works

TVA had a 1954 model 2-ton stake truck with 3600 hours of service on it after severe use on a construction job. Question was whether to repair it to get normal life of 5000 hours or replace it at once? Here's how it worked out . . .

a = \$2450—cost of new truck equal to old

b = \$850—TVA shop estimate of repair cost

c = \$450—Value of '54 truck in 1960 after 5000 hours of service (900 hours per year)

d = \$600—Value of new truck in 1963 after 5000 hours of service

w = \$350—(take bids if in doubt)

x = 5000 hours

y = 8600 hours—(5000 for new truck plus 3600 on old truck)

1. Cost per hour to repair and continue operating '54 truck would be . . . $\frac{(1.3 \times \$2450) + \$850 - \$450}{5000}$ or 72¢ per hour

2. Cost per hour to buy and operate a new truck works out this way . . . $\frac{(2.6 \times \$2450) - \$600 - \$350}{8600}$, or 63¢ per hour.

3. Since cost per hour would be less with new truck, decision is easily made to sell the old one, buy a new one.



THIS IS TVA

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CCJ's Mobile Editorial Team

Mounted on an FWD HRC 6 x 6, this Gradall is one of TVA's varied items of equipment cared for and supplied by men of its Transportation Branch

Appraisal forms shown here are used when a vehicle nears the end of its expected service life or when it needs major repairs. Results of the inspection are combined with data to decide to replace or repair

recorded operating data on the vehicle to determine if it (1) should be replaced immediately or (2) can continue to operate efficiently for a longer period. If the unit is to be replaced, notice is sent to the driver and shop staffs not to make major repairs on the unit. If the study of the vehicle's history shows it recently had major repairs, its replacement is postponed until it has given the additional service life expected from the repairs.

The replacement formula guides

routine retirement decisions (see example at left). It also helps the Transportation staff decide whether damaged vehicles should be repaired or replaced.

Retirement or replacement of every fleet vehicle must be justified by applying the formula.

Retired vehicles are generally grouped for sales at the locations for which replacement vehicles are purchased. However, if another location offers a better used car price which more than covers the cost of ferrying the retired vehicles, the units are sold there.

TVA buys new vehicles the same

as other government agencies—by competitive bidding. In setting up its specifications, the Transportation Branch generally calls for standard, competitively priced makes and models with a minimum of accessories or extras. Since some accessories are of definite value to the fleet, the Transportation Branch does have a table rating these features by dollar value. With this guide, the bidder can tell in advance what "extras" he can include in his bid and still keep it competitive.

In comparing bids, the Transportation Branch staff notes not only the prices but the availability and convenience of the manufacturers' parts and service facilities in the area where the vehicle will operate.

THE 200-20-10000

TRANSPORTATION BRANCH
VEHICLE APPRAISAL FORM

Date _____ Operator's Name _____ No. _____
Make _____ Year _____
Type of Operation _____ No. Years Expected Life of Vehicle _____
Has Vehicle been Operated in Previous Condition? _____ Reason _____
Operator's Name _____
Signature _____

Item	Current Condition	Work Required	Notes/Details
Engine			
Trans			
Clutch			
Brake			
Steering			
Shock Abs.			
Wheels			
Body			
Paint			
Accessories			

General Service Life: _____
Estimated Service Life: _____
Maximum Repair to Service Vehicle (Cost of New Vehicle) _____
Supervisor's Recommendation _____
Approved _____ Date _____
In Service Code For Reporting Body and Tires: _____

SECTION 2
BODY AND ACCESSORY REQUIREMENTS

Item	Current Condition	Work Required	Notes/Details
Engine			
Trans			
Clutch			
Brake			
Steering			
Shock Abs.			
Wheels			
Body			
Paint			
Accessories			

General Service Life: _____
Estimated Service Life: _____
Maximum Repair to Service Vehicle (Cost of New Vehicle) _____
Supervisor's Recommendation _____
Approved _____ Date _____
In Service Code For Reporting Body and Tires: _____

COST CONTROLS

COST CONTROL GETS

YOU CAN'T CONTROL COSTS until you know how much the costs are. That's why TVA's Transportation Branch considers its cost report system an important management tool. It uses regular monthly cost reports from each shop or service facility and quarterly comparisons of vehicle types. In addition, it makes (1) periodic cost checks to spot problems and (2) a variety of special studies.

The monthly report keeps both the headquarters staff and local supervisors informed on cost trends. However, it's the Quarterly Vehicle Cost Statement which is the real working base for cost control.

This cost statement shows unit costs of gasoline, oil, tires, maintenance, depreciation and administration for each type of vehicle. (Data below shows ½-ton truck costs.) Quantity of fuel used as well as cost is reported since costs vary from one area to another. Similarly, while an average cost figure is shown on the statement for tires, the mileage secured from individual tires is also used for control purposes.

Periodic studies and charts have proved useful in spotting areas of the fleet operation on which management should concentrate its attention. Charts and tabulations are prepared regularly to show . . .

- Mileage comparisons by periods.

Quarterly data is checked against budget to spot cost irregularities. Here's the picture on ½-ton trucks . . .

Cost per Mile	12-month Estimate July '57-June '58	3-month Report July '57-Sept. '57	6-month Report July '57-Dec. '57
Operating Costs:			
Gasoline.....	1.86¢	1.70¢	1.81¢
Oil.....	.05	.05	.05
Miscellaneous Services.....	.39	.30	.36
Tires and Tubes.....	.46	.38	.40
Dispatch Service.....	.23	.15	.18
Storage.....	.11	.11	.11
Total.....	2.90¢	2.69¢	2.91¢
Maintenance.....	2.76	2.17	2.21
Shop Overhead.....	1.13	1.00	.91
Depreciation.....	2.20	2.20	2.20
Administration.....	.73	.60	.57
Total.....	9.72¢	8.66¢	8.80¢
Average miles per vehicle per month.....	500	532	514
Miles per gallon of fuel.....	12.5	12.23	11.51
Miles per quart of oil.....	340	397	395

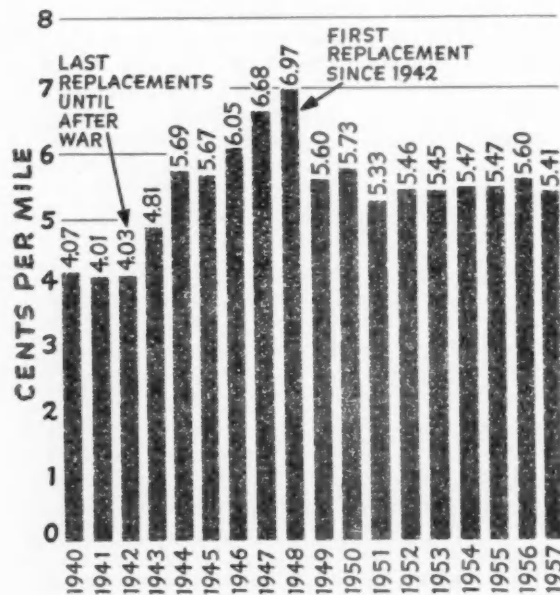
- Number of employees, fleet size, and mileage accumulations.
- Average utilization of vehicles by types.
- Personal car use.
- Overhead and total costs.
- Rental cars and TVA vehicle mileages.
- Costs by classes of vehicles.
- Actual expenditures, and budget estimates by locations.
- Numbers of clerical, supervisory, and shop employees and totals of mileage, expenditures, and vehicles in the fleet.

As needed, special cost studies are made—such as vehicle comparison by make, comparison by areas of operation, outside work expenditures vs. costs of similar work performed by TVA, outside purchases and depreciation.

Trends in used car market values by types of vehicles and locations are used to plan vehicle disposals. Such data are used to decide (1) sales quantities, (2) where sales will be made, (3) time of year and (4) vehicle age.

Below is a progressive record of annual average cost per mile for sedans covering the period from 1941 to 1957. (TVA operates on a fiscal year basis. For example, calendar months July, 1957, through

Special sedan study showed how keeping light vehicles beyond "first life" boosts cost per mile uneconomically



CONSTANT STUDY

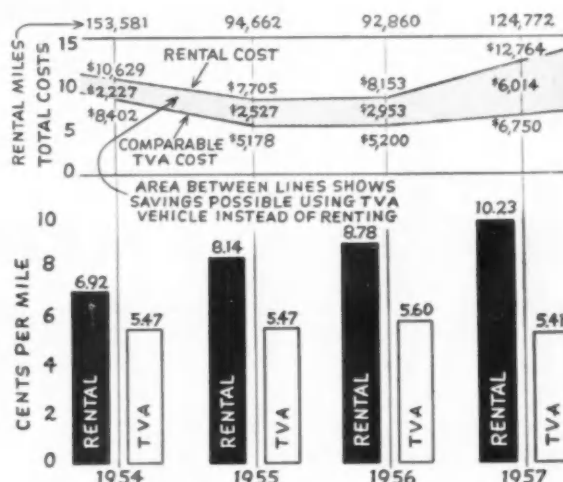
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June, 1958, would be fiscal 1958. Unless otherwise noted, years given in text and charts refer to fiscal years.) Note the sharp and steady rise in cost from 4.03¢ per mile in 1942 increasing to 6.97¢ per mile in 1948.

This 1942 to 1948 increase was due to greater maintenance costs during the war years when vehicle replacements were not available. This experience proves the fallacy of keeping light mass-production vehicles beyond their "first" life. The cost figures on this graph did a job in fixing a plan of retirement. Now TVA is saving up to 1½¢ per mile on approximately 12 million miles of sedan travel per year with this retirement program.

Chart at upper right provides information on the use of rental sedans. The average cost per mile for rental and TVA-owned sedans are shown side by side in these columns for the fiscal years of 1954 through 1957.

Total mileage for rental sedans is shown in the figures at the top of the chart. Curve at top shows annual expenditures for rental sedans. The line below shows calculated cost of the same number of miles in TVA-owned sedans. The shaded area between the lines shows extra cost of rental sedans which ranges from \$2227 to \$6014 for the years shown.

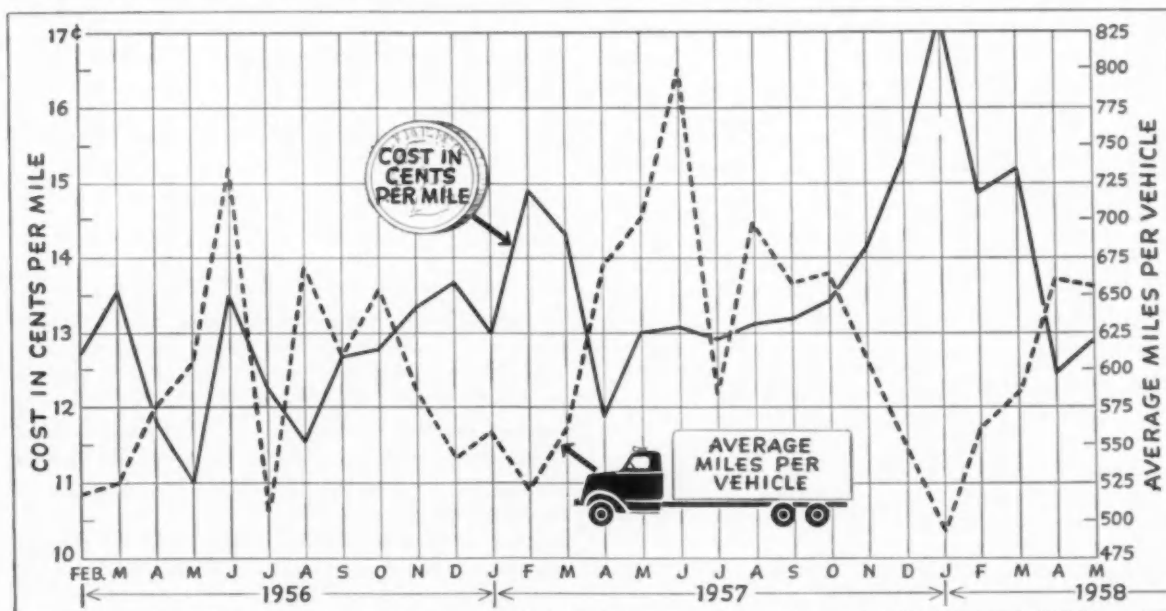


TVA checks rental mileage cost against its own operating data to provide constant cost control on each type

MAINTENANCE PROGRAM

Chart developed from TVA's cost records by CCJ shows how cost per mile increases as miles per vehicle drop

Pattern is typical of fleets where work done is incidental to mileage, shows impact of fixed overhead costs





To provide PM service for its 2800-vehicle fleet, TVA has seven shops located at key points in its operating area. Shown here is the Muscle Shoals shop, one of the four main facilities

PREVENTIVE MAINTENANCE? YES—BUT NOT TOO MUCH

WITHIN ITS BASIC POLICY of retiring most fleet units before they need major maintenance, the Transportation Branch has developed its preventive maintenance program. This consists mainly of scheduled lubrication and inspection at fixed intervals. Aim is to prevent serious trouble from developing without being guilty of over-maintaining the equipment.

Lubrication interval on trucks 2-ton and up is 1000 miles. For passenger cars and light trucks it's 2000 miles. As long as it's not more than 10¢ a gallon higher than regular oil in the particular region, detergent oil is used.

Standard practice is to use the lightest oil, consistent with reasonable oil consumption. Oil filter cartridges are replaced at 10,000-mile intervals on light vehicles and at 900 hours or 5000 miles on heavy units except for those in severe service.

The fleet uses SAE 20 (Navy 9170) for general use and SAE 30 (Navy 9250) in hot weather and in older engines with high oil consumption rates. SAE 40 and 50 are used for high temperature operations and in some International engines.

Preventive maintenance is scheduled for all TVA units at fixed intervals. These are . . .

1. Light PM at 10,000 miles for vehicles under 20,000 lb GVW and a heavy PM job at 30,000 miles.
2. 900 hours for construction machines and off-road trucks.
3. 600 hours, 5000 miles or one year for trucks over 20,000 lb GVW.

Inspections involve the following steps. . .

1. The garage foreman encourages the driver to re-

port on how the vehicle is operating, either orally or through written reports.

2. The unit is given a road test by the inspectors to check. . . .
 - a. Performance—starting, pickup, power.
 - b. Noises in engine, transmission, differential, universal joints, body, cab, etc.
 - c. Operation of brake and clutch pedals, gear shift, doors, locks, windows, brakes, steering gear, etc.
 - d. Operation of standard equipment, accessories—governor, heater, winch, etc.
 - e. Operation of gauges, instruments and thermostats.
3. Visual check by road tester, washman and mechanics working on unit. . . .
 - a. Appearance and condition of sheet metal, fenders, body radiator, bumpers, grilles, hood, windshield, glass, etc.

DETAILED FORMS

A set of simple but complete inspection forms guide mechanics in servicing TVA's fleet. Two examples are shown at right. At top is the PM Inspection and Repair Record for Trucks. Prepared for the various classes of trucks in the fleet, it includes (1) a list of some 30 items to be checked, (2) a column in which symbols can be inserted to show what work has been done and (3) space for the inspector's comments.

Driver complaints are first to be checked. They're followed by any items discovered during the PM road test. Bottom of the form includes space for signature of

- b. Faults or damage of accessories, engine, or major components.
- c. Tire wear for faulty alignment, balance, etc.
4. Cleaning
5. Lubrication
6. Mechanical examination
7. Final road test by designated inspector
8. Complete vehicle inspection report and post shop order.

Tire specialists are designated

at every shop. They are supplied with manuals, data sheets, bulletins, and all necessary instruction material to give up-to-date PM service on tires, wheels and rims.

Examination of all tires is made during every vehicle PM. Inflation is checked once a week, and check lists are recommended to insure against oversight. Daily visual examination by dispatchers has become a habit. All sound tire casings are recapped except passenger car and low platform trailer sizes (7.50-15, 8.25-15, 9.00-15, and 10.00-15).

Policy is to repair—not junk—

large tires (7.50-17 and up) which have been damaged (cuts, stone bruises, etc.) (1) if the repair cost is less than one-half the value of the remaining tire life or (2) if section repairs would not be more than three. Following table is used by TVA in determining if remaining tread justifies a section repair. . . .

Tire Size	Original Cost	Section Repair Cost	% Remaining Tread to Justify Section Repair
7.50-17	\$ 35	\$ 5.50	35 % or more
8.25-20	55	6.50	25 % or more
9.00-16	55	7.25	25 % or more
10.00-20	85	10.00	25 % or more
11.00-20	95	10.00	25 % or more
12.00-20	125	12.00	20 % or more

To justify a more expensive repair, a higher percentage of tread must be remaining. A less expensive repair can be justified when remaining tread is less than that shown.

GUIDE INSPECTIONS

the person who road tests the unit after it has been serviced, supervisor's signature, date the work was completed and the cost.

The Inspection and Repair Record for Trailers (at bottom) is equally detailed and simple. Trailers are inspected yearly or after 600 hours operation. Every third inspection is scheduled as a "heavy" inspection in which major servicing is performed. Other inspections are concerned mainly with driver complaints, road test findings, visual inspection and adjustments. At these inspections, only repairs obviously needed are made.

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PM INSPECTION AND REPAIR RECORD
TRUCKS
CITY 4000 & 6000 SERIES CLASSIFIED

Operator's Signature: _____ Date: _____

Inspector's Signature: _____ Date: _____

Shop Order Number: _____

Vehicle Identification Number: _____

Inspection Date: _____

Inspection Mileage: _____

Inspection Hours: _____

Inspection Location: _____

Inspection Technician: _____

Inspection Results:

1. Tires (Front, Rear, Spare) _____

2. Lubrication (Engine, Chassis, Grease) _____

3. Brakes (Front, Rear, Parking) _____

4. Steering (Tie Rods, Ball Joints, Knuckles) _____

5. Suspension (Springs, Shock Absorbers, U-Bolts) _____

6. Chassis (Frame, Axles, Hubs, Drums) _____

7. Electrical (Batteries, Lights, Horn, Wipers) _____

8. Engine (Oil, Water, Belts, Hoses) _____

9. Cooling (Radiator, Fan, Water Pump) _____

10. Exhaust (Manifold, Pipes, Muffler) _____

11. Safety (Mirrors, Flags, Lights) _____

12. General (Cleanliness, Tighten-up) _____

13. Road Test (Acceleration, Braking, Steering) _____

14. Final Remarks _____

Inspection Status: ☐ Pass ☐ Fail ☐ Major Repairs Needed

Inspection Technician: _____

PM INSPECTION AND REPAIR RECORD
TRAILERS
10,000 LBS. CLASS

Operator's Signature: _____ Date: _____

Inspector's Signature: _____ Date: _____

Shop Order Number: _____

Vehicle Identification Number: _____

Inspection Date: _____

Inspection Mileage: _____

Inspection Hours: _____

Inspection Location: _____

Inspection Technician: _____

Inspection Results:

1. Tires (Front, Rear, Spare) _____

2. Lubrication (Engine, Chassis, Grease) _____

3. Brakes (Front, Rear, Parking) _____

4. Steering (Tie Rods, Ball Joints, Knuckles) _____

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7. Electrical (Batteries, Lights, Horn, Wipers) _____

8. Engine (Oil, Water, Belts, Hoses) _____

9. Cooling (Radiator, Fan, Water Pump) _____

10. Exhaust (Manifold, Pipes, Muffler) _____

11. Safety (Mirrors, Flags, Lights) _____

12. General (Cleanliness, Tighten-up) _____

13. Road Test (Acceleration, Braking, Steering) _____

14. Final Remarks _____

Inspection Status: ☐ Pass ☐ Fail ☐ Major Repairs Needed

Inspection Technician: _____

SHOP FACILITIES



Portable test equipment at Muscle Shoals shop makes maximum use of available service area space in shop



TVA's garages use drive-through stalls, outside servicing on the apron when the weather permits to boost capacity

SHOPS are BUILT for EFFICIENCY...

YOU'LL FIND FEW FANCY TRIMMINGS in any of TVA's maintenance shops. They're work rooms, not show-places. But as work rooms, they're built to handle their work load smoothly with a minimum of inconvenience.

The accompanying photos of the shop and garage at Muscle Shoals, Ala., are typical of TVA's maintenance facilities. The list of shop tools (from the Knoxville, Tenn., shop) beginning at right confirms the statement that the shops are well equipped.

Basically the shops handle PM inspections and routine servicing and repairs. They're not intended for heavy overhaul work. But when the need arises, they can turn out special equipment, as you'll see on the next page.

In the four major shops and three smaller garages TVA has 50,000 sq ft of service area. More than 160 employees are engaged in maintenance work, directly or indirectly.

Interior of Muscle Shoals garage is typical of other shops. Clean, well-lit, with plenty of elbow room to spare



Knoxville Shop

Air Compressors—2—Sullivan, Ingersoll Rand
Air Receiver—Gardner-Denver
Battery chargers—3—General Electric, Sun
Bench grinders—6—Black & Decker, Cincinnati, Dead-
erick, Sioux, Walker-Turner
Body jack kits—Portopower
Boring bar (1/2-hp)—Van Norman
Brake machine—Chicago
Brake reliner (1/4-hp) Admiral
Bumper lift (hydraulic)—Walker
Crane (hydraulic, 1-ton)—Ruger
Crank pin returning tool—Service Auto Parts
Drills (electric)—16—Sioux, Thor, Milwaukee Electric,
Van Dorn



This segment of TVA's fleet shows variety of equipment handled by shops. Peak loads are farmed out

Paint shop and woodworking area is adjacent to main garage. Room at the left houses the upholstery shop



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...and they're FULLY EQUIPPED

Equipment List

Drill presses—3—Delta, Cincinnati
Drying lamp (infra-red)—Op-Al
Floor jacks (rollaway)—6—Blackhawk, Walker
Front-end lift—Baylift
Gasoline pumps—5—Bowser, Tokheim, Wayne
Grease guns—2—Stewart-Warner
Grease pumps—2—Stewart-Warner, Balcrank
Grinder attachment (1/4-hp)—Oliver
Hoist (1-ton)—Budgit
Hoist (2-ton)—4—Wright, Davis, Cyclone
Impact wrenches—12—Ingersoll-Rand, Chicago Pneumatic, Thor
Key cutter—Briggs & Stratton
Lathes—2—South Bend, Cincinnati
Lubrication lift (electric)—Walker
Nibbling machines—2—Skilsaw
Paint spray system—Stewart-Warner
Pedestal grinders—2—Cincinnati, Brown-Brockmeyer
Planer (motor driven)—Oliver
Platform scale (500-lb)—Howe
Press (hydraulic)—Dake
Riveter—Ingersoll-Rand
Riveting hammer (pneumatic)—Chicago Pneumatic
Sanders—6—Sioux, Coats-Moore, Easy, National
Saws—4—Delta (saw and joiner), Skilsaw (1-hp handsaw),
Racine (2-hp hacksaw), Howell (electric bandsaw)
Sewing machine—Singer

Shapers—2—Delta, R. A. Kelly
Shears—Beverly
Sound-proof booth—Burgess
Steam cleaner (electric)—Siebring
Surface grinder (pneumatic)—Ingersoll-Rand
Test equipment
Electric test bench—Weidenhoff
Engine tune-up tester—Sun
Distributor tester—Sun
Dwell meter—Sun
Headlight tester—John Bean
Timing lights—4—Sun
Volt-amp tester—Sun
Tire changer (air-operated)—Henderson
Tire press (hydraulic)—TVA shop-built
Tire remover—Ingersoll-Rand
Tire Spreader—Manley
Valve refacer—Sioux
Valve seat grinder—Black & Decker
Vacuum cleaner—Doyle
Welder (arc)—Lincoln Electric
Wheel balancers—2—John Bean, Stewart-Warner
Wheel aligner—John Bean
Work benches (metal)—Equipto

SHOP-MADE EQUIPMENT



This dual tire carriage was made from an old hydraulic jack and salvaged parts. The tubular frame carriage rides over small tube uprights



This aluminum plate case was designed in the shop as a convenient holder for vehicle records. It keeps PM records handy when units move

SHOP INSPIRED IDEAS SAVE

ENGINEERING is a major responsibility of TVA's Transportation Branch. Modifications of equipment, rebuilding of equipment, even buildup of new vehicles is a continuous operation at TVA. In addition, setting standards for maintenance routines and for adjustments on various types of equipment comes under this heading.

Man in charge of this phase is Charles Hudson, well known among *COMMERCIAL CAR JOURNAL* readers and automotive engineers. As assistant to Transportation Chief Irish, Charlie is responsible for setting up purchasing specifications. His task here is to choose the equipment best suited to TVA's operation. He has been instrumental in setting-up simplified PM systems

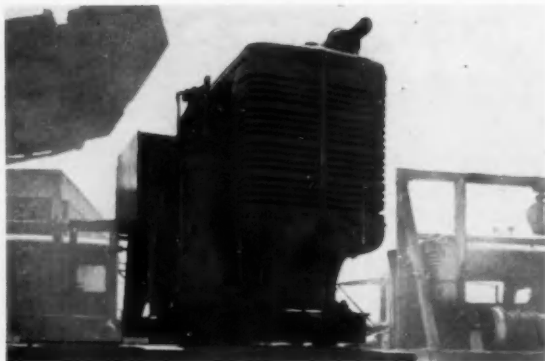
on all types of equipment and in establishing a standards program to expedite maintenance.

He spends a great deal of time inspecting equipment with an eye toward improving its efficiency. In this job, he covers all maintenance facilities cultivating comments from mechanics, foremen, and supervisors to make the equipment better suited to specific transportation requirements.

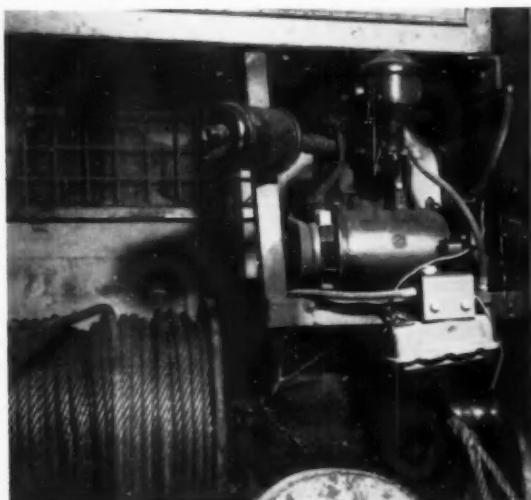
Along this line, he seeks ideas for short cuts, shop hints or for engineering changes to equipment that can be accomplished in the shops. Contributors are given due recognition for suggestions that improve maintenance routines.

When short cuts are discovered, bulletins are prepared and sent to all shops to direct the foremen in specific jobs. These service bulletins have become a major maintenance guide.

There have been bulletins on (1) vehicle brake PM, (2) suggestions for overcoming noise in hydraulic lifters, (3) methods of eliminating vapor lock, (4) control of block cracking, (5) carburetor icing elimination, (6) valve service procedures, (7) practices for installation and setting of governors, (8) cooling sys-



Compressor and air tank on Gradeall replace engine-operated air brakes and supply better braking power with engine off than does emergency brake



More efficient than a truck's engine as a power source for night lighting, this low horsepower generator unit sits in the front of line truck bodies

TIME, EFFORT

tem inspection and service, and (9) spark plug recommendations.

These bulletins go into specific detail, tell what is required in the way of service procedures. Diagrams and drawings are enclosed for the guidance of the mechanics.

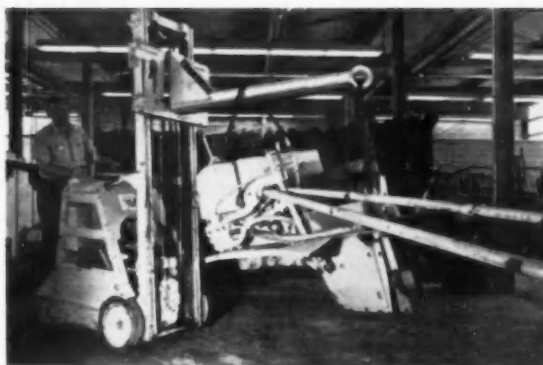
From the men themselves come many of these important PM practices. For example, mechanics have sent in suggestions for modification of carburetors, modification of front axles and king pins, positioning of a truck's spring and axle, elimination of window glass breakage, methods of overcoming exhaust valve breakage and use of auxiliary generators for certain model trucks. When accepted, these suggestions are also issued as service bulletins.

Photographs on these pages show specific examples of modifications made to either equipment or shop tools in the interest of efficiency.

Another example was published in the "Shop Hints" section of CCJ (Aug., page 78). This was an air-motored pump for transferring gasoline from and to vehicle tanks. Developed and constructed by the men at the Muscle Shoals garage, it won the \$25 top prize for the month.

The prize money has been donated to a charity fund to help crippled children which the men at the shop support. This fund also receives the proceeds of a self-service sandwich and soft drink counter at the shop.

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Addition of a bar to this lift truck's boom produced a versatile hoist for moving parts around the shop. It's carrying a crawler assembly in photo

Modified transmission jack carries heavy batteries without effort. Adjustable supports permit levelling battery. Chains are used to secure it



SAFETY PROGRAM

MATURE SAFETY PROGRAM PUTS

VTVA'S SAFETY PROGRAM is a prime example of a fully matured, workable accident prevention system. To the casual observer, it might appear that there is no formal program. That's only because the system works so smoothly and unobtrusively. But statistics prove the program's there—and working. TVA has a set of National Safety Council awards for added proof.

Present program was set up in 1936. Accident frequency rate at that time was 2.65 per 100,000 miles. Graphs below show the progress since then. Record low for the fleet of 0.53 was set in 1956.

Prime responsibility for the program lies with D. E. Nolting, assistant chief of TVA's Safety Branch. Area supervisors act in advisory or "persuasive" capacities in the field to provide continuity for the program.

Also each power plant and major construction project has its own safety engineer. He is concerned with both vehicular and personal safety, works closely with the project's general manager.

The accident-prevention program faces three basic problems — (1) TVA's geographical spread, (2) the wide variety of equipment used and (3) the fact that most drivers are hired for jobs in which driving is not the prime task.

One of the major safety tools is the selection, testing and training program. Administered by the Safety Branch, it includes a road test for new drivers and periodic retesting of others.

The road test is an evaluation tool

rather than an outright pass-or-fail exam. Tougher than most state driver license exams, it includes a written test followed by at least 45 minutes of driving over a five-mile course. The examiner tries to put the driver at ease so he can observe as nearly as possible the man's normal driving habits.

After the test the examiner discusses any bad driving habits noted. He may have the driver go through a maneuver several times until he is convinced that the man understands the proper procedure. If the driver needs still further training but is otherwise acceptable, further sessions with the examiner-instructor are scheduled.

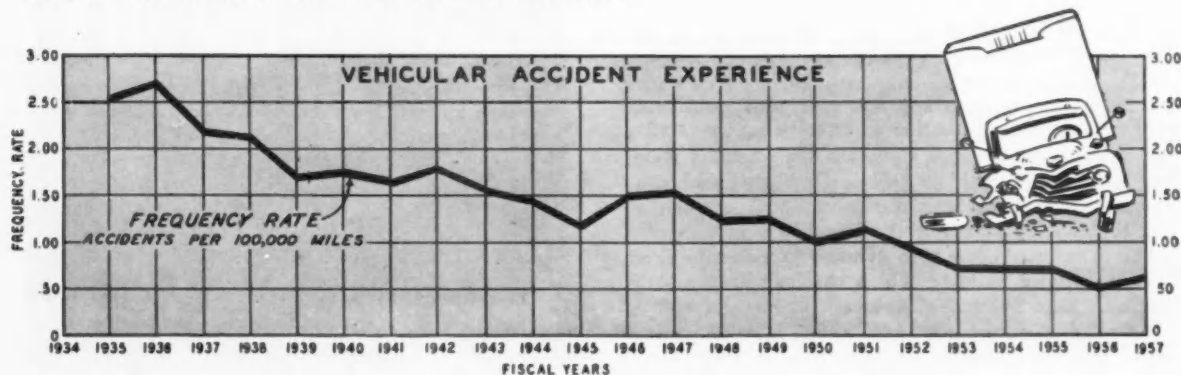
A report on the written and road tests,

along with lists of driving habits requiring attention, are sent to the driver's immediate supervisor. The driver is also given a card to show that he has been tested. Since men are frequently transferred around TVA's service area, this card is a convenient way to identify qualified drivers when they arrive on a new job.

The tests are useful in spotting men who need retraining. Examiners of the Public Safety Service handle about 2000 tests a year. This includes retesting every third year of some drivers, as required by their supervisors. This retesting generally is handled at the same time as the periodical medical examination available to all TVA employees.

From the tests and the medical exam, drivers whose health condition makes them unsuitable as

FLEET ACCIDENT RATE DROPS STEADILY



SQUEEZE on ACCIDENTS

drivers are detected. Others who may have become a little hazy (or lazy) on driving technique can be brought up to par.

Proper maintenance of equipment is part of the safety program. "Mechanical maintenance saves vehicles," says Irish, "Good attitude maintenance saves men!" As a help to both, he recommends governors set at 60 mph for passenger cars. "There's never been an accident charged to the governor. The men just don't expose themselves to hot rod situations."

All vehicles get a complete safety check each time they are serviced—in TVA facilities wherever feasible. When this is not possible, each driver carries an identification card and purchase orders for outside service. Most service stations and garages in the TVA area honor "TVA 1669's."

Positive attitudes toward safety and good performance are developed by personal letters of commendation to men who do something outstanding. Such letters may be for single acts or for longtime practices. They describe the reason for writing and express the appreciation of both the writer and TVA. There is no prescribed form, so the letters are truly personal.

The letter writers are also always at least one step removed from the recipients in the chain of command. It is never the immediate superior who writes, but the man above him. Thus the recipients can feel "the brass" is truly concerned with safety.

This gives incentive to supervisory to observe and remember good performance—as well as bad—so as to be able to report candidates for recommendation. These letters are highly regarded throughout TVA. Many times an employee points out to a supervisor some meritorious action by another employee, lest it go unobserved and unrecognized.

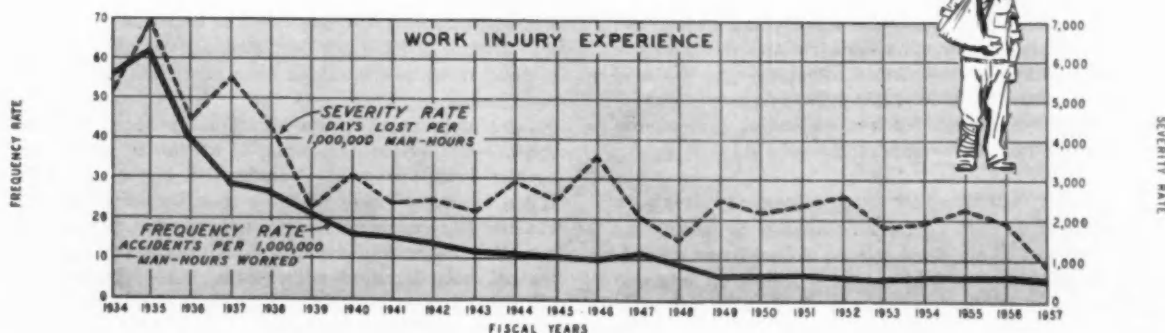
An inter-divisional driver training committee meets regularly twice a year and when necessary in a fact-finding and advisory capacity. It has members from TVA's departments of power, transportation, personnel, safety and public safety service.

It was this group that came up with a remedy for the poor accident record on earthmovers and heavy equipment. Heavy vehicle accidents were cut by more than half. Repair and maintenance costs on these machines dropped as both frequency and severity of accidents were reduced.

The inter-divisional committee also promoted a special safety training program in 1943 for all personnel dealing with explosives, including drivers and helpers. Repeated re-training and vigilance by the safety men has pushed explosive mishaps close to the vanishing point.

CONSTRUCTION RIG PM

INJURIES DECREASE—AND THEY'RE LESS SEVERE





THIS IS TVA
Report in depth by
CCJ's Mobile Editorial Team

Specialists handle heavy-duty unit servicing in the Transportation Branch shops. Improved methods have increased PM intervals by 50 per cent

Scheduled Maintenance Boosts Life of Heavy-Duty Equipment

VREGULAR INSPECTION of construction rigs poses the same problems for TVA's Transportation Branch as for any other construction equipment operator. The units are frequently in the field when inspections fall due. Also they're more complex and require specialists to service them.

The Branch's working solution to the problem consists of (1) giving the best possible field service and (2) following-up with thorough in-shop servicing at regular intervals.

Crawlers, cranes, shovels and other heavy equipment used to be brought in for maintenance after 600 hours of operation. Performance studies and improved operating techniques made it possible for this interval to be extended to 900 hours.

As equipment is brought in, a crew of specialists gives it a thorough going over. On crawlers—for example—they tear down the rollers, remove and inspect transmissions, replace worn parts. Some parts are replaced arbitrarily at this time rather than run the risk of failure in the field. Injectors are replaced every 900 hours, and fuel pumps given a complete overhaul. Tracks are repaired and all major components returned to factory specifications.

Lubrication and minor servicing is done in the field with portable equipment at temporary shop locations. When such service is due, Branch headquarters notifies the field staff. A follow-up is made later to see that the work has been done. Each unit carries its service record on a weather-proof card in

By the time it gets out of the shop this crawler will have had a complete overhaul and will be ready for another 900 hours of rough operation



a metal container mounted on a protected part of the equipment.

Careful training of operators has reduced wear on equipment. Periodic checking of operators' techniques by the Transportation Branch staff has also helped. When equipment does fail, the operator is required to explain the cause of the failure so the Branch can establish responsibility for it. Since this means operators may have to admit being the cause of the failure, it has helped make them aware of the need for handling equipment carefully.

CCJ CONSTRUCTION FLEET MAINTENANCE



Compiled by the Editors of COMMERCIAL CAR JOURNAL

AT YOUR SERVICE . . .

Overspeeding on earthmoving jobs causes a lot of unnecessary damage. Several factory service representatives tell us that the time saved by "hitting the company notch" probably costs more in terms of maintenance than it's worth to most contractors. High speed operation for extended periods is hard on all drive train components, tires and wheel bearings. All of these are designed for heavy loads and moderate speeds—not racing.

Tires on large earthmovers are constructed to withstand impacts. They are designed especially for good flotation and consequently must flex more than highway type tires. Flexing generates heat which in turn damages cord and accelerates wear. Speeding over rough terrain should be avoided for the same reason.

Wheel bearings carry heavy loads concentrated on small areas. Overspeeding increases heat build-up which in turn damages the lubricant. Although the bearings may not warp and seize, excessive heat affects the metal and shortens service life.

To determine when service is due on construction equipment, the best yardstick to go by is hours of operation. Most contractors today use this method. However, revolution counters don't always do the job since they are designed to give a correct hourly reading at full rated engine speed. They may be off by as much as 70 per cent since few engines operate at full rated speed beyond short periods. Hour meters give a much more dependable time record of the machine. If hour meters can extend intervals between service periods, aren't they worth a try?

Rotating-type exhaust valves, commonly called "Roto-Valves", "Rotor-Valves", "Free-Valves", etc., have been in use for quite a number of years now. They have proven their superiority over the non-rotating conventional exhaust valve, particularly in heavy-duty service.

However, you get the advantages of this type of valve only when you maintain them properly. For example, valve stem cups are an integral part of the

cylinder head. A valve reconditioning job is not complete unless proper clearance between the stem tip and stem cup has been checked and set. Failure to make this inspection and adjustment defeats the purpose and intent of using a Roto-Valve, as it causes improper operation and premature failure. Considerable wear occurs to the valve rotating mechanism in operation. The shoulder of the keys or keepers suffer most where they contact the shoulder of the valve stem groove. Excessive stem-to-cup clearance increases this wear. Too little clearance stops the rotating action of the valve.

Before installing Roto-Valves, either new or refaced, check the valve cup clearance. It should be from 0.002-in. to 0.006-in., preferably close to the low limit of 0.002-in., since the cup clearance increases during operation due to key wear.

If more than 0.006 in. valve cup clearance exists, the Automotive Engine Rebuilders Association says to grind evenly from valve cup rim face to get specified clearance. If there's less than 0.002 in. clearance, grind from valve stem tip. A special micrometer gage is required to check valve cup clearance accurately.

After cup clearance has been checked and set on all valves, be sure to keep component parts with the valves on which they were checked. Some shops use masking tape to keep the cups in place on their respective valves after assembly until the head itself is installed on the engine.

Can dry-type air filters on off-road equipment save money in reduced service time and longer engine life? One contractor reports that they definitely do. He tried the dry-type filters on a job in New Jersey and found that he could cut filter service from once a day to twice a week. Time required to change the filter was reduced from a half hour to 15 minutes. Since these filters are highly efficient, the company expects to extend engine life from 3000-4000 hours to between 6000 and 8000 hours. This appears to be par for the course.

Four technical papers were presented on dry filtration at the recent SAE National Farm, Construction and Industrial Machinery Meeting in Milwaukee, Wis. Engineers generally agree that the dry type cleaner is a good bet for widespread use of construction equipment.

Maintenance by the Book

How a New PM System Cuts Costs for Utah Construction Co.

By L. H. Houck

VA NEW AND effective planned preventive maintenance system—field tested for the past year under tough conditions—has been developed by Utah Construction Co., San Francisco, Cal. It is directed by L. C. Irwin, manager, Equipment Dept., and D. F. Anderson, equipment superintendent.

Overall control is accomplished through coordination and cooperation of two complementary departments. The Equipment Dept. is responsible for ownership and operating costs, location and movement authorization, equipment acquisition and disposal. The Mechanical Dept. supervises maintenance and repair of equipment on all projects and operates the various storage yards.

At the field level, project managers or general superintendents are responsible for successful operation of Utah's preventive maintenance program. In practice, the responsibility is delegated to the master mechanics on the project. Area equipment superintendents act as consultants to the projects in carrying out the PM program. They solve specific project problems, disseminate ideas and procedures developed on other jobs and assist master mechanics through their knowledge of operating and maintenance peculiarities of individual pieces of equipment.

The philosophy of Utah's preventive maintenance program lies in the fact that equipment must be in top condition to compete in today's highly competitive construction industry. Thorough and continuous

maintenance is the only way to keep condition up. Complete understanding of this fact by all project personnel—supervision, operations, and maintenance—puts the philosophy to work.

High points of cost reduction on construction equipment include: (1) positive service check and recheck at appointed hours. (2) continuing comprehensive history of service and repair on each unit. (3) saving parts cost by replacing only worn or damaged parts.

To actually see how the PM program works, let's look at an actual project. Utah Construction has a huge uranium stripping operation in western Wyoming in the shadow of the Rattlesnake mountain range. There is also a \$10,000,000 ore refining mill on the property. On hand as guide was H. E. McNally, Area Equipment Superintendent, who supervises the Utah equipment spreads in Utah, Colorado, Wyoming and other Rocky Mountain states.

Heart of the new PM system is a loose-leaf book made up in the San Francisco office for each unit of equipment. This book goes where the unit goes. It becomes a permanent record of the unit's vital statistics and accumulative history of its life and movement from vendor to junk yard.

Each book represents a single unit of equipment. While that unit of equipment remains under the jurisdiction of the master mechanic assigned to the project, the book remains in the master mechanic's office.

It's time for an "oil break" for these scrapers at Utah Construction Co.'s Lucky Mac project. Two lube crews of six men handle the job



L. H. Houck is a well-known and experienced reporter on construction fleets and the work they do. It isn't unusual for him to cover thousands of miles from his Jefferson City, Mo., home base. This one, he says, was out of the ordinary.

"I made an appointment to meet Utah's Area Equipment Supt. McNally and cover this western Wyoming operation. We were to meet at the maintenance shop in Riverton at a particular time. Riverton, Wyo., is some 1500 miles from Jefferson City. What I didn't know—when I started—was that the shop was actually 58 miles from Riverton down a gravel road over desert and mountains.

"I got to Riverton and was told to take a black top a couple of miles, turn left through a cattle guard and follow the gravel trail until I came to Lucky Mac—location of the shop. I passed sage hens and antelopes, a baffling array of signs—Keep Out, Private, No Admittance without Pass—and a couple of small air fields. Later I was told that this was the only road in the world that gets longer the further you travel.

"But eventually, I came to the maintenance shop . . . an hour and a half late. McNally, who had come to the meeting from Salt Lake City, Utah, was there with two assistants. They had spent the time betting that 'the man from CCJ had turned back when he saw the cattle guard and the gravel trail'!"

Everything there is to know about that unit is in the book—including part numbers and filter numbers to mention a couple.

Bulk of the book consists of blank forms for keeping routine PM service records on an accumulative hour basis—incorporated with PM time schedules. Each book is designed for a particular unit and does not necessarily represent the PM procedure or hourly checks for any other unit.

One such book on the master mechanic's desk covers Utah's truck No. TKD-895. It's a Euclid rear dump. First page describes the engine—a Cummins 6-cyl NHRS-600 diesel rated 300 hp @ 2100 rpm.

Capacities shown include crankcase-28 qt, differential-23 qt, steering gear-6 pt, transmission-22 qt, rear axle-41 qt. Other details such as bearings (number, size and make), bore and stroke, and adjustments are included. Filters are listed by style, part number and brand to be used. In some cases options are listed. In other cases no options are permitted.

Other often needed data includes, length, width, height, weight and sizes of front and rear tires, as well as the original power with the engine serial number. There's also space for recording data on replacement power in the future should the engine be changed.



Utah's S. A. McClure, H. E. McNally and I. A. McClure check new PM books which contain complete history of each unit



C. V. "Smokey" Jenkins keeps tab of PM intervals, sees that field crews know when to perform 100-hour service

In the equipment record section, it states that TKD-895, manufactured by Euclid, was received from the vendor in June, 1953, lists its serial number, capacity (14 cu yds, or 22 tons), and that on Aug. 1, 1957, it had its last complete overhaul at 5611 hours. Such overhaul listings show precisely the parts replaced.

Interesting is a history of the movement of the unit. It shows TKD-895 went from the vendor to its first assignment at Winkelman, Ariz. After finishing there, it went to a stripping job at Pima, Ariz., then west to South San Francisco, Cal., and from there to its present assignment—the Lucky Mac project near Riverton, Wyo.

The accumulated history represented by these records is invaluable in determining how much good is left in the truck. Such information might well result in getting another year's service from the unit. On the other hand, it likewise prevents keeping a unit too long. Fugitives from the junk pile can be expensive.

Of more immediate importance is the use of the detail by the master mechanic in planning repair. For example, the unit has an Allison torque con-

(TURN TO NEXT PAGE, PLEASE)

Maintenance by the Book

Continued from page C 3

verter, Model No. TC-644-1 with 2.8-1 ratio plus an Allison Model TG-607 RM 13 Torqmatic transmission with differential ratio of 3.3-1 and final drive ratio of 4.58-1.

All information needed to order parts correctly the first time are included. This eliminates thumbing through parts books, shop manuals and scratching the caked grease off faded numbers. Changes made earlier are listed in detail. All special items on this truck also are listed.

Since the book—including the statistics and the present stage of PM upkeep by appointed hours—goes with the unit, a strange crew receiving it at a far distant place can immediately take up where the other crew left off.

Proper services can be picked up at any time without time-wasting correspondence, transfer of information by word-of-mouth, radio or telephone call. All this contributes mightily to more productive hours for the unit, better use of the talents of mechanical and preventive maintenance lubrication crews and reduction in dead line or bad order time.

Field service at the uranium stripping project is typical of other Utah jobs. It begins in a spacious Butler steel building, 50 x 125-ft, which provides shop space, office space and a parts warehouse. A large stock of parts is required because this job is remote from supplies and rush orders must be delivered to the job by air at the company's landing field.

I. A. McClure is master mechanic in charge. All the PM books on this job—each repre-

senting one piece of equipment under McClure's supervision—are quartered on top of his desk in an easily accessible row. If a machine is reported down or he has been handed a trouble report about a unit at work, McClure takes down that book and at his finger tips has a comprehensive history of the unit.

McClure has one man keeping a time record, seeing that PM and repair reports are made, being sure each book on each piece of equipment is kept up to date. From here, orders go to field crews for periodic 100-hour checks on equipment.

This field maintenance crew does mechanical work—not routine lube work. It consists of two mechanics and two helpers on each shift. Each pair has a truck with a winch and a boom. In addition, one mechanic is assigned to each shift with a $\frac{3}{4}$ -ton pickup truck. His duty is to check on the 100-hour service, see if any repairs or service are needed, get the work started.

For example, he carries red and yellow chalk which he uses to circle cracks in steel bodies or frames that need welding. (The colors have no particular significance. The yellow is used to mark on red paint and the red on yellow paint.) The mark is an order for the job, stays until the welder welds the crack and rubs it out.

Work week for PM personnel is spaced so there is a 14-man crew available on Sunday for mechanical work when the equipment is idle.

Lubrication is performed strictly according to manufacturer's charts and recommendations. Two lubrication crews of six men each work two 10-hour shifts using a semi-permanent lubrication station and a mobile greasing outfit. This consists of a power lube machine, air compressor, water and oil supply and light plant on a 2½-ton truck.

The job is fully radio-equipped and the network includes the main office. Tires and batteries are serviced by specialists with a truck and crew on each shift.

Welder in field shop hard-faces shovel renewable dipper teeth. Shop has 14-man Sunday-crew when rigs are idle



Colored chalk makes welding needs easy to spot. The mark is the "job order". It stays on until the repair is made



Let's Talk Track

By Thomas C. Kingsley
Service Dept., Caterpillar Tractor Co.

VHOW LONG should track last? Any answer depends on a lot of things—the tractor itself, the job, soil conditions, maintenance and the operator. But economical track service life can be obtained—(1) by recognizing track problems and (2) knowing what to do about them.

Any discussion of track problems starts with the job to be done. The application determines which attachments are most economical and most needed.

For example, use of a track-type tractor in rock work presents operating conditions and wear characteristics very different from those in routine dirt work. Track shoes, rollers, idlers, links, pins, bushings, final drive sprockets, guards and even hardware wear longer in dirt operations than in rock. Tractors operating in rock must be equipped to combat increased depreciation if the owner expects longest possible service life and best value for his investment.

Track shoes are the first parts to consider. Wide track shoes are most satisfactory when flotation is needed for operating in mud gumbo and some dirt work. However, wide shoes have greater overhang beyond the track chain than narrow shoes. Loads applied to the outer edge create greater leverage. The result is that wide shoes are more frequently damaged while working in rock than narrow shoes.

There is another advantage of narrow shoes. When working in hard material, the narrow grouser will penetrate deeper, increasing traction.

When a tractor is called upon to work almost exclusively in rock, special heavy duty track shoes should be used. These shoes may be of either double grouser or flat design depending upon the traction needed. In especially abrasive rock, a manganese alloy shoe may prove to be the most economical investment.

Also don't overlook the advantages of track roller guards. From the standpoint of economy, these attachments pay for themselves many times over. Track roller guards help hold the track on the rollers on steep slopes. These attachments also help reduce wear on roller flanges and idler pilot rims.



One way to cut maintenance costs by reducing rock damage is to bolt track roller guards on track roller frame

In addition to abrasive wear between the rollers and track links, rock feeding into unprotected track causes other difficulties. The crushing impact causes breakages of links, roller flanges and other parts.

Rock causes external wear on bushings, idler rims and sprocket teeth. The impact of the crushing action slashes the life of the track roller bushings. Rock can cause track to tighten excessively around the sprocket. Stretching out track causes the link pin and bushing bores to expand, result in loose pins and bushings.

Rock isn't the only material requiring use of alternate parts or attachments. Snow, mud and wet sand have a tendency to "pack" in the track and cause severe strain on all track components. To prevent material from building up and clogging tracks, install special snow shoes—which have a cut-out section in the center between the bolt holes—and snow sprockets—which have deeper recesses between the teeth than standard sprockets.

The advent of large push tractors has brought about a need for other special track shoes. Width of the push tractor is usually wider than older makes of scrapers. The outer edge of the track shoe rides up out of the scraper cut forcing the track in toward the tractor. This causes sprockets to rub against the outside link. It also results in accelerated wear to roller and idler flanges.

Where flotation is not a factor, narrow shoes offer the best solution to this problem. If flotation is required, when working in such materials as sand or mud, off-set shoes should be used that match the cut of the narrowest scraper on the job.

To increase efficiency, operators should consider selection of track equipment and attachments which are available for use in other than average conditions. The tractor which is equipped to meet the problems of the job will give the best performance.

Next month — Better track maintenance

Submerged-arc hard surfacing is a money saver when it comes to rebuilding and restoring worn parts. Some shy away from it, say it's too tricky. But it's not—as this 4-part article shows.

Written especially for **COMMERCIAL CAR JOURNAL** by Charles G. Herbruck of Lincoln Electric Co., first two sections presented here tell how to set-up for hard surfacing and how to rebuild rollers and idlers.

Next month, he shows how to hard surface tractor tracks. Third article deals with rebuilding of crusher rollers.

▼ **SUCCESSFUL SUBMERGED** arc hard surfacing results from thorough examination of the part—before starting to weld. For best service, the right hard surfacing material must be used and it must be put on with the proper procedures.

Here are things to consider in setting-up a hard surfacing job . . .

1. Wear conditions—Is the wear caused by grinding, hammering, or some other wearing action?
2. Thickness and shape of the part—Check thickness and ability to position for automatic welding. Look for abrupt changes in section.
3. Composition of the part—Is the base metal readily weldable, or will it be necessary to use special procedures, such as preheat?
4. Finish requirements—Can the part be left in the as-welded condition, or must it be machined or ground to size?

Normally, wear conditions decide which hard surfacing materials to use. There are many different types of hard surfacing deposits. Some are derived from alloy electrode used with conventional submerged arc flux.

Another and perhaps more flexible method uses an alloyed hard surfacing flux with mild steel electrode. Alloy fluxes give greater selection of hard surfacing deposits because the amount of alloy picked up from the flux by the deposit can be controlled by simply adjusting the arc voltage.

For example, we have four different hard surfacing fluxes and two automatic electrodes used with them. Deposits from these materials range from a chrome-carbide to a medium carbon, low alloy type. Chrome carbides have maximum abrasion resistance. Medium carbon, low alloy deposits have excellent impact resistance and can be machined when deposited with certain procedures.

Between these two types, there are others with varying combinations of abrasion and impact resistance. Therefore it is possible to select materials and procedures which give maximum life in service.

How to Prepare for Submerged Arc Hard Surfacing

Thickness of the part—along

with its composition—determines the need for preheat. Welds on large, thick parts cool quickly, may create severe shrinkage stresses which could cause the part to fail prematurely in service. Any part should be at least 75-100 deg F before welding commences. Thicker parts may require preheats up to 500 deg F for best results.

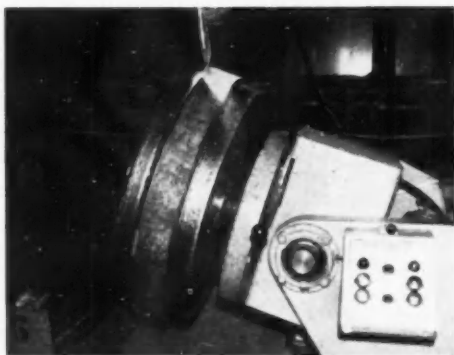
Shape of the part also influences cooling stresses. Irregular shapes with abrupt changes in section have more severe stresses than regular box or round shapes. Shape also determines, in some cases, the practicability of using submerged arc. One of the requirements of the process is that the welds must be made in the downhand position. The shape must permit the part to be put in this position.

Composition of the part is

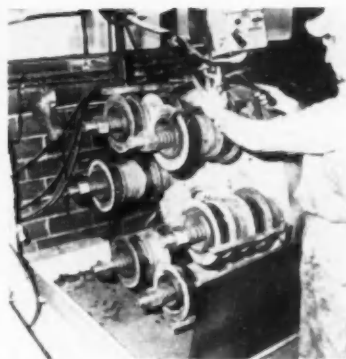
particularly important in determining the preheat used when depositing the hard surfacing material. The higher the alloy, the greater the need for preheat. High manganese (12-14 per cent) steel requires procedures considerably different from those used for other alloy steels. Cast iron procedures are still different. Usually, information on the analysis of the part is available from the manufacturer. If not, simple tests, such as the grinding spark test, give a good indication of analysis. Whenever there is doubt, it pays to be conservative and use plenty of preheat.

The required finish condition of the surface must be known before the hard surfacing materials are chosen. Only a limited number of materials are machineable in as-welded condition. Others are machineable when softened by annealing. Some cannot be softened even with annealing and must therefore be ground to the required finish.

It is frequently possible to use the same materials and procedures for a large majority of the work. However even under these conditions, it is well to check the service conditions and make changes when necessary. One of the advantages of using the submerged arc process is that the deposit can be adjusted to closely match the requirements of the job.



Tilt idler to 20 deg angle before welding flange. For a smooth surface, overlap bead $\frac{1}{2}$ to $\frac{1}{3}$ of its width on each revolution.



Multiple spindle fixture makes bead shape easier to control by alternating rollers under head

Fixture tilts to 60 deg to weld flanges. One layer may restore them to finish size



How to Rebuild Idlers and Rollers

Submerged arc hard surfacing

extends life of rollers and idlers. It is an economical means of rebuilding worn parts, and the rebuilt parts frequently outwear new ones.

Two materials are used in rebuilding. One is a low alloy build-up deposit thick enough to bring the worn part to within about $\frac{3}{8}$ in. of gage size. The other is a higher alloy material used for the final three layers. One flux and electrode provides both types of deposits simply by changing arc voltage.

Clean the surfaces and

flanges with a wire brush to remove rust, oil dust, etc. Grind or burn off any rolled-over metal. Build up flat or thin spots with a medium carbon, low alloy manual electrode. Repair any cracks with manual, low hydrogen electrodes.

With the part in the fixture, position the submerged arc welding head over the work, so that the electrode is off-center in the direction opposite to rotation. On idlers, the off-center distance should be $1\frac{1}{4}$ to $1\frac{1}{2}$ in. and on rollers, about $\frac{3}{4}$ in.

Support the granular flux ahead

of the arc with an asbestos or non-burning rubber retainer that rides the work. Use a narrow, sheet metal retaining ring on edges to keep flux from spilling.

The 0.35-0.40 per cent carbon rollers normally require no preheat, though it is important that the chill is off the work. Roller temperature should be at least 80 deg F. Heat alloy steel rollers to 400-500 deg F and idlers to 300-400 deg F. Start heating idlers at the hub and progress out to the rim.

Using the build-up procedures,

first fill in the low areas so that the surface is even. Then build up the edges before the part becomes too hot. Finally, build up the surfaces to within about $\frac{3}{8}$ in.—on the radius—of gage size.

	Idlers	
	Build-up	Hard Surfacing
Work diameter	24-34 in.	23-34 in.
No. of layers	Within $\frac{1}{8}$ -in. of gage	3 layers maximum
Welding current	DC- or AC	DC- or AC
Amps	400	400
Volts	28	32
Travel speed (in. per min)	34-38	34-38
Electrode size	$\frac{1}{8}$ in.	$\frac{1}{8}$ in.

	Rollers	
	Build-up	Hard Surfacing
Work diameter	7-11 in.	7-11 in.
No. of layers	Within $\frac{1}{8}$ -in. of gage	3 layers maximum
Welding current	DC- or AC	DC- or AC
Amps	325-350	325-350
Volts	27-28	31-32
Travel speed (in. per min)	25-35	25-35
Electrode size	$\frac{1}{8}$ in.	$\frac{1}{8}$ in.

Progress across the surface by making a bead completely around the part, then moving the head over so that the next bead overlaps the previous one.

Apply three hard surfacing layers

over the build-up material. Use the same technique as for build-up, but increase the arc voltage so that the deposit picks up more alloy from the hard surfacing flux. Tilt rollers about 60 deg and idlers about 20 deg when welding the flanges. Weld from the running surface up.

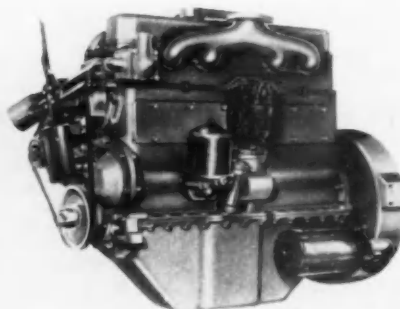
Let rollers cool in still air, away from drafts. For best results, reduce the cooling rate of idlers by covering with asbestos, sand or some similar material. Slow cooling reduces shrinkage stresses.

What's New...

Elmhurst Chicago Stone Co. is using this powered chute to advantage on all kinds of ready-mix jobs. The hydraulic chute control, designed by Monarch Road Machinery Co. is available in a kit for application to any type mixer. The unit controls the position of the discharge chute in eight seconds. The control box is fixed conveniently at the rear of the unit so that guiding, raising, lowering or changing chute position is simple and safe.



Two new high-speed Hercules six-cylinder diesels designed for applications in which speeds of 1800 to 3000 rpm are desired. Called the DDH Series, the new engines are offered in two sizes. One gives up to 112 hp at 3000 rpm, has a 298 cu in. displacement. The other produces 122 hp at 3000 rpm, displaces 339 cu in. Both engines were developed by Hercules primarily for modern road and highway service equipment having hydraulic torque converters requiring engine speeds of approximately 2200 rpm for efficient operation. Features distinguishing the new engines from Hercules' regular DD Series diesels are increased crankpin diameter (2½ in. as compared with 2 in.) and larger main bearing diameter (2⅞ in. as against 2½ in.).



Crane Carrier Corp. gives mobility to the Sampson multiple-purpose excavator, Model No. FS-1, made by Avery Tractor, Inc. Excavator is fully hydraulic, has full swing to operate in the tightest positions. It actually is seven machines in one—a backhoe, shovel, crane, clam-shell, grader, grapple and magnet. Mobility requirements dictated the specialized carrier designed and built by CCC.



1958 Construction Maintenance Index

Commercial Car Journal's complete 1958 index begins on page 109, this issue. In addition, here's your special index to help you locate the cost-cutting, time-saving

articles published in this special section for construction fleet maintenance men during the past year. Write us for any you'd like to have extra copies of . . .

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Core Stops Engine Overheating.....	Feb. C5
Melrose Tech Turns Out Expert Mechanics.....	Feb. C6
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How to Cut Rock Damage to Tracks.....	Mar. C3
Top Grade Shop Builds Service.....	Mar. C4
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ANNOUNCING . . .

LIGHTEST

the new
GMC

“Tilt-Cab Cruiser”

48" BBC . . . DLR8000 . . . GCW 61,000 lbs.

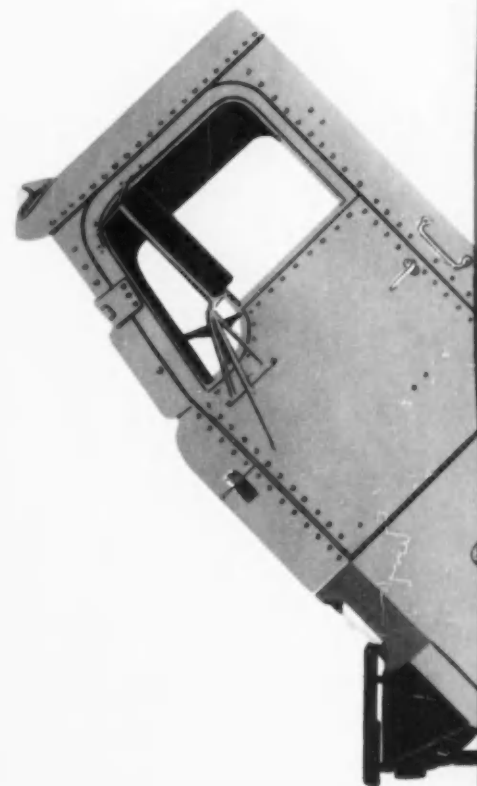


Chassis Weight—Road Ready—9987 lbs.

BEST WEIGHT ALUMINUM TILT-C



Rear 2823 lbs.—Front 7164 lbs.



UP
PAY

LIGHTEST WEIGHT ALUMINUM TRUCK

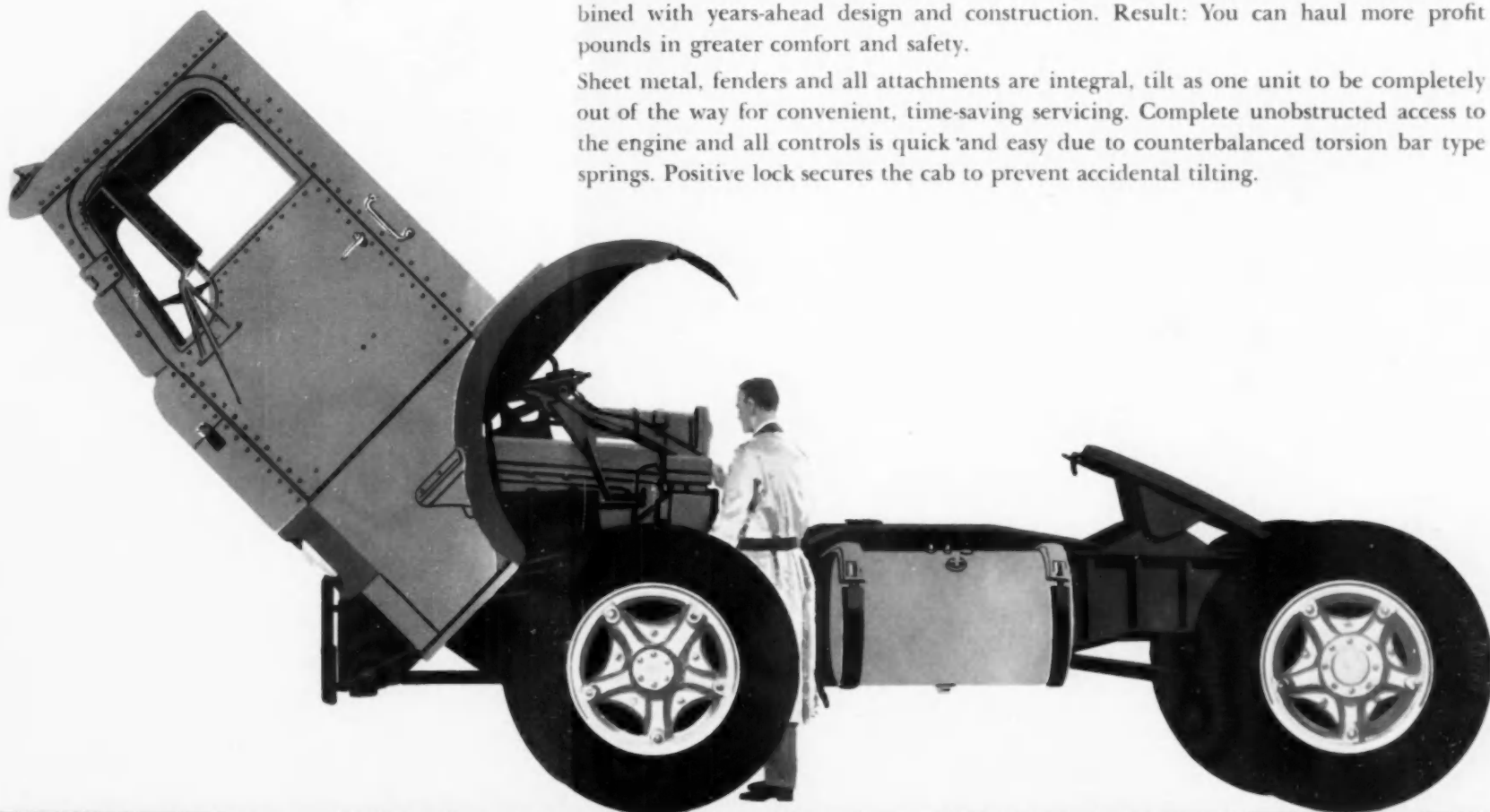


M TILT-CAB IN ITS CLASS!

lightest and roomiest 48" tilt-cab

Only GMC can offer the biggest inside dimensions and the least weight! All-aluminum cab, fiber glass fenders and grille, plus other lightweight components have been combined with years-ahead design and construction. Result: You can haul more profit pounds in greater comfort and safety.

Sheet metal, fenders and all attachments are integral, tilt as one unit to be completely out of the way for convenient, time-saving servicing. Complete unobstructed access to the engine and all controls is quick and easy due to counterbalanced torsion bar type springs. Positive lock secures the cab to prevent accidental tilting.



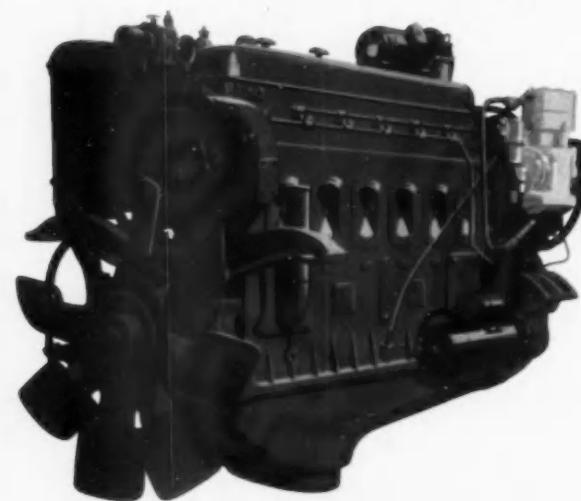
UP TO 1,824 MORE PAYLOAD POUNDS!



Chassis Weight—Road Ready—9987 lbs.

For the first time, here is a tractor that has been designed from the ground up exclusively for highway hauling! A brand new concept in the most efficient method of over-the-road movement! The greatest transport advancement since the fifth wheel! A flexible unit that will take maximum legal trailer lengths, give you more payload than ever before with ideal weight distribution! Proof that OPERATION "HIGH GEAR" at GMC will pay off for you!

most economical



Economy Range Governor

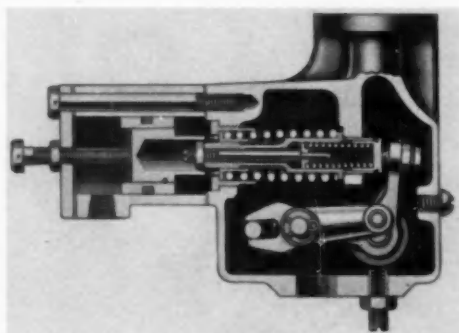
EVERY PROFIT-FEATURE YOU

Rear 2823 lbs.—Front 7164 lbs.

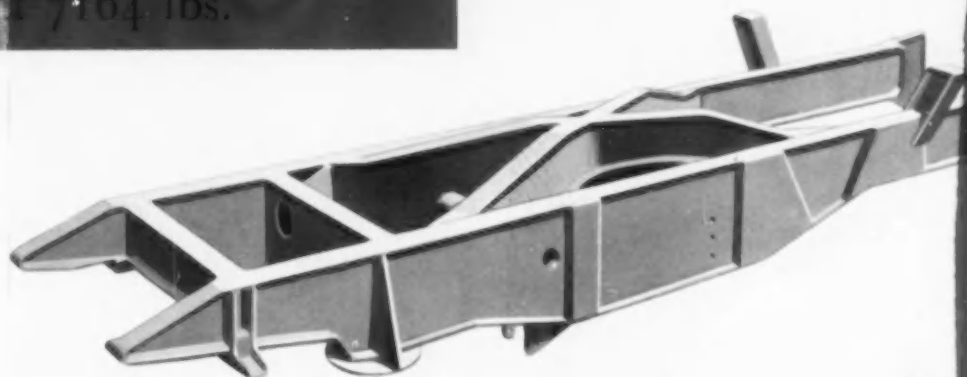
most economical diesel on the road today



Another Operation "High Gear" accomplishment — the 6-71 Super-Economy two-cycle diesel engine with 189 H.P. (210 H.P. optional), the power plant that is setting fuel economy and endurance records all over the U.S. That's because it's the only diesel with — (1) economy range governor for controlled engine speed, less fuel consumption; (2) four exhaust valves for complete scavenging of exhaust gases; (3) the temperature controlled fan that saves up to 12 H.P.; (4) fewer parts and most efficient power per cu. in. displacement.



Economy Range Governor



exclusive welded I-beam frame construction

MOST STRENGTH, LEAST WEIGHT—Backbone of the new GMC "Cab Cruiser" is an entirely new fabricated frame. This unique welded I-beam type construction is actually stronger, yet weighs one half as much as comparable channel-type frames . . . eliminates up to 300 pounds of needless truck weight.

QUICK FACTS

Model DLR8000—GCW 61,000 lbs.

AXLES

Front—Independent Suspension, Stabilized Air Ride. Capacity 11,000 lbs.

Rear—Stabilized Air Ride, 2-speed 4.33/5.91 or 4.87/6.65. Capacity 18,000 lbs.

BRAKES (Full air—standard)

Front—16¼" x 3½"

Rear—16½" x 5½"

Total lining area—613 sq. in.

Compressor—12 cu. ft.

ENGINE

6-71 Super Economy 2-cycle

189 H.P.—Standard

210 H.P.—Optional at no extra cost

FRAME

Fabricated, welded I-Beam type

high tensile steel

Section Modulus—14.6

STEERING

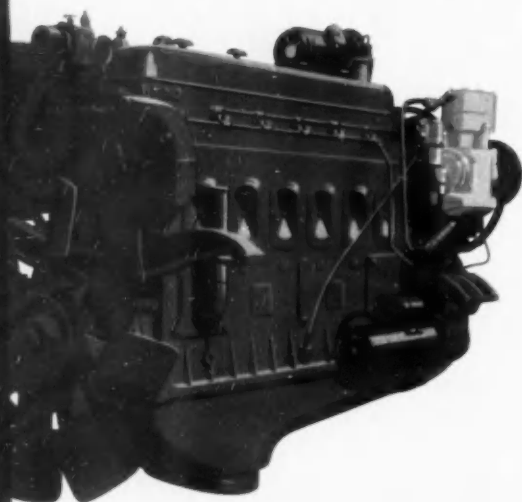
Recirculating ball, 30.51 to 1

Adjustable, jointed column

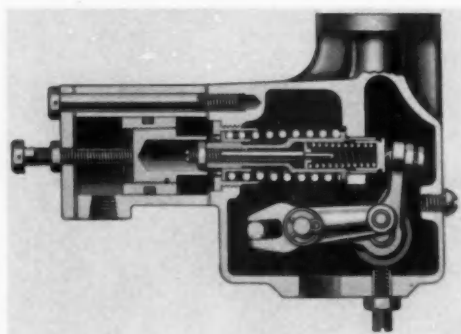
YOU HAVE EVER ASKED FOR—AN

Rear 2823 lbs.—Front 7164 lbs.

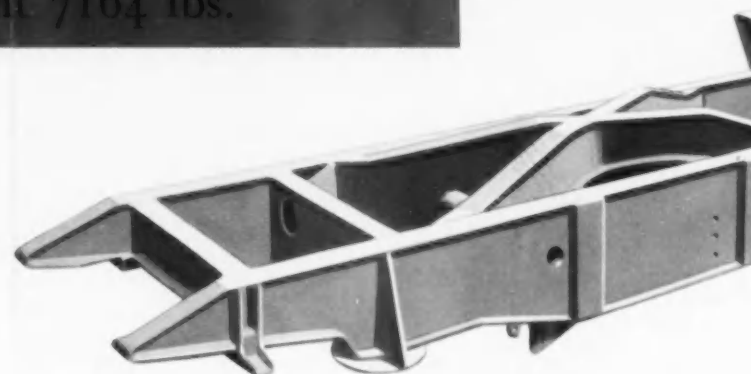
most economical diesel on the road today



Another Operation "High Gear" accomplishment — the 6-71 Super-Economy two-cycle diesel engine with 189 H.P. (210 H.P. optional), the power plant that is setting fuel economy and endurance records all over the U.S. That's because it's the only diesel with — (1) economy range governor for controlled engine speed, less fuel consumption; (2) four exhaust valves for complete scavenging of exhaust gases; (3) the temperature controlled fan that saves up to 12 H.P.; (4) fewer parts and most efficient power per cu. in. displacement.



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Total lining area—613 sq. in.
Compressor—12 cu. ft.

QU

ENGINE

6-71 S
189 H
210 H

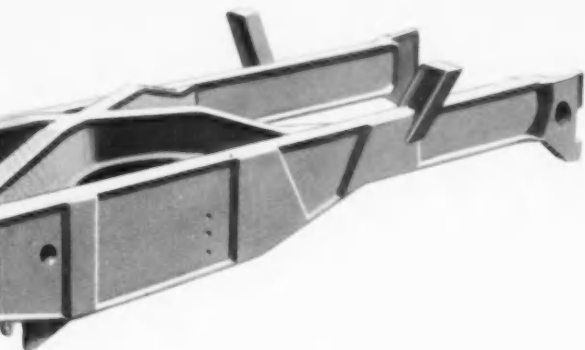
FRAME

Fabri
high
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STEER

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URE YOU HAVE EVER ASKED FOR



I-beam frame construction

EIGHT—Backbone of the new GMC "Tilt-fabricated frame. This unique welded I-beam frame, yet weighs one half as much as comparable frames up to 300 pounds of needless truck weight.



exclusive, independent front suspension

EASIEST HANDLING, SMOOTHEST RIDING — Another great GMC advance in truck design, independent front suspension. Now each wheel functions independently for smoother riding, easier steering and handling. Truck life is increased due to a minimum of shocks and jolts. Drivers are less tired, more alert.

New exclusive, Stabilized Air Ride is standard on the front and rear. This weight-saving, cargo-protecting GMC development eliminates leaf springs and does away with "bottoming out".

QUICK FACTS

000 lbs.

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ed 4.33/5.91
lbs.

ENGINE

6-71 Super Economy 2-cycle diesel
189 H.P.—Standard
210 H.P.—Optional at no extra cost

FRAME

Fabricated, welded I-Beam type, SAE 950
high tensile steel
Section Modulus—14.6

STEERING

Recirculating ball, 30.51 to 1 ratio
Adjustable, jointed column

TRANSMISSION

5-speed synchromesh overdrive

WHEELS AND TIRES

Standard—5-spoke cast type wheels
11-22.5 12 ply tubeless tires
Optional—10-stud Budd wheels
10-stud Budd high tensile steel wheels
Tubeless tires, max.—12-24.5 12 ply
Tube type, max.—11.00 x 22 12 ply

CHASSIS WEIGHT complete, ready for the road with all trailer connections including fifth-wheel and 100 gallons of fuel (108 in. wheelbase) — 9987 lbs.



TRUCKS

FOR —AND MORE!

ANNOUNCING . . . L

GMC
REVS UP

WITH
OPERATION
“HIGH GEAR”

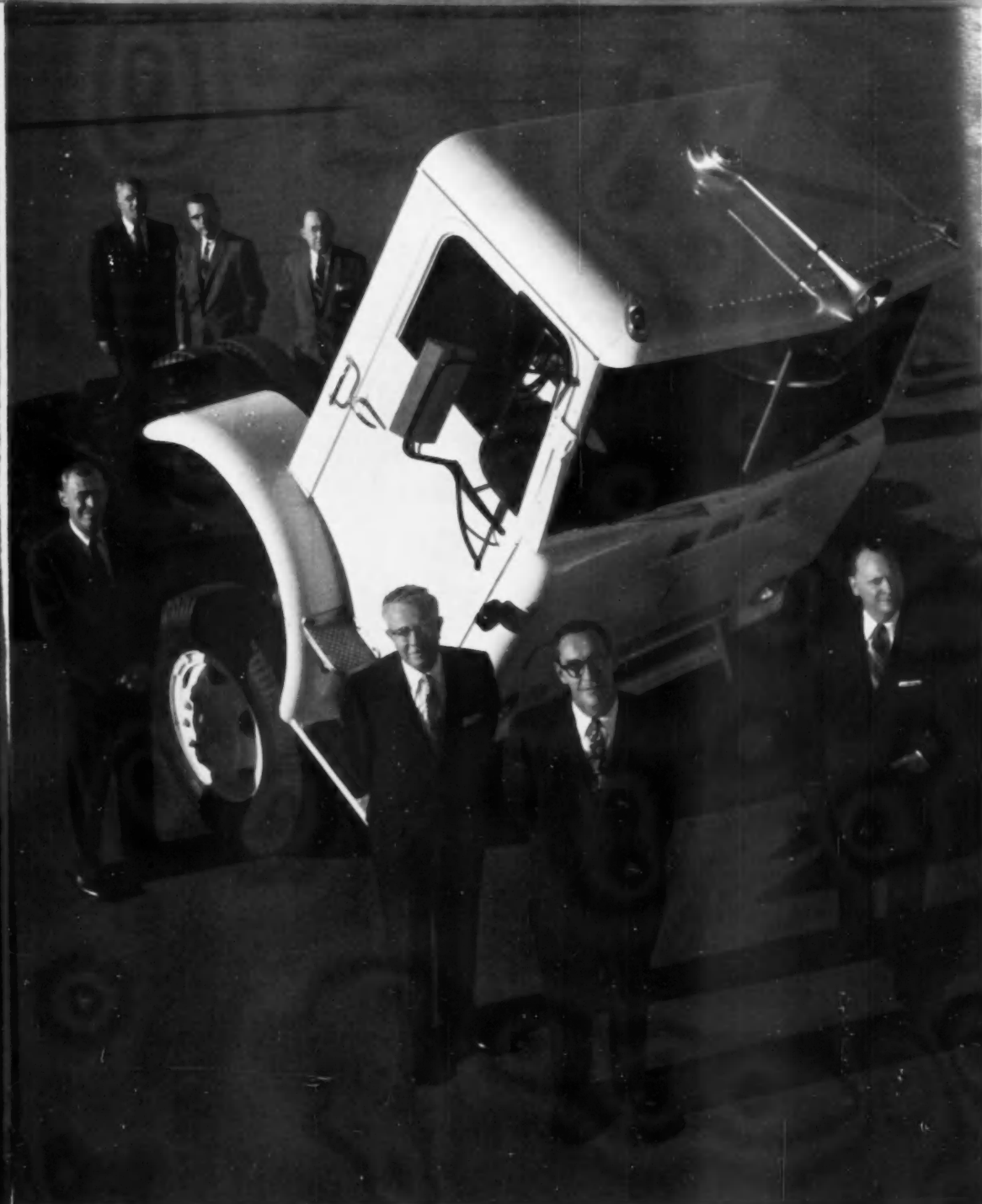
— SAVE THIS VALUABLE SECTION FOR HANDY REFERENCE —

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... LIGHTEST WEIGHT

N
R”
THE BIGGEST design,
engineering and quality-
control program the industry
has ever known brings you
the greatest money-saving,
money-making advances
in trucks today...

ALUMINUM TILT-CAB IN



Inspecting the new "Tilt-Cab Cruiser" is GMC's top management team, left to right, front row: T. E. Wilson, General Manufacturing Manager; C. V. Crockett, Chief Engineer; P. J. Monaghan, General Motors Vice President and General Manager GMC; R. C. Woodhouse, General Sales Manager. Back row: J. C. Marek, General Service Manager; R. L. Ganter, Comptroller and J. P. McManus, Director of Purchasing.

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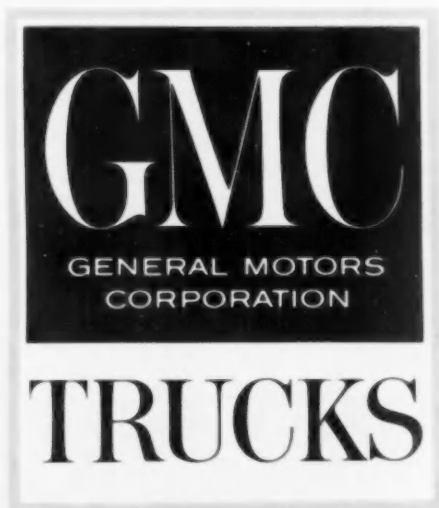
AB IN ITS CLASS!

What is happening at GMC is the most exciting thing that has ever happened in the truck industry!

GMC is engaged in a gigantic engineering, design and quality-control program that will gain in speed and intensity as it moves along. It represents the greatest forward surge the trucking industry has yet seen. And it is backed by the keenest brains and manufacturing know-how in the business.

But perhaps even more important, Operation "High Gear" is a new philosophy . . . a new attitude of mind. It is demanding teamwork of the highest order between our men in engineering, manufacturing, sales and service. And it is paying off—by giving you better trucks, better suited to your needs . . . longer-lived trucks that require less downtime . . . greater payloads with lower cost per mile . . . and at an initial price that not only is competitive but in many cases is considerably below trucks of other makes.

From ½-ton to 45-ton . . . General Motors leads the way!

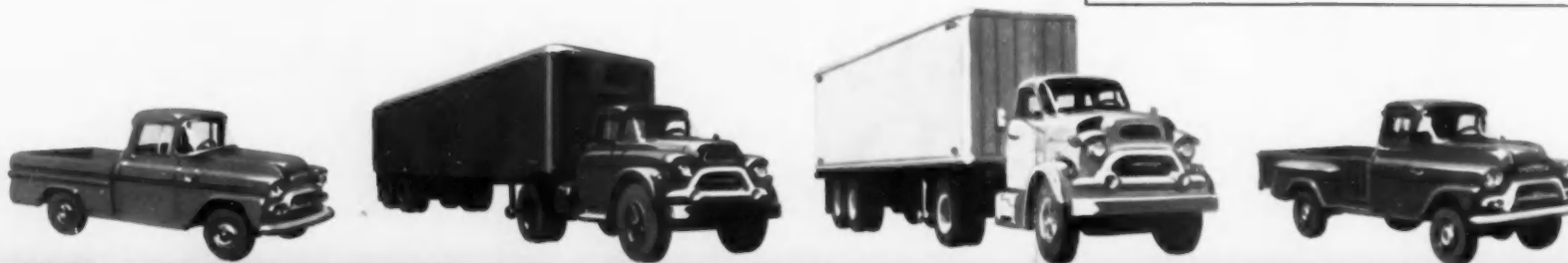


GMC Truck & Coach—a General Motors Division

This isn't talk—it's ACTION! Unfold this sheet and see for yourself

MORE IMPORTANT RESULTS OF GMC OPERATION "HIGH GEAR"

... GMC TRUCKS with all the
profit features you need for
every hauling operation



ample

gas

sixes

This is the famous, proved line of
cylinder engines with every speci-
finement for dollars-ahead, time-a-
formance.

Displacement Cu. In.	Gross H.P.	Gross
270A	130	238 @
270B	140	246 @
302	160	268 @
503	217	455 @

light tru

All GMC Trucks have big carrying ca-
tical weight savings without sacrific-
durability. And GMC is continually en-
saving advances throughout its line.
a comparable model, this new GMC
total of 1,270 pounds more payload

Simple, low-cost POWER

gasoline powered

two-cycle

extra

gasoline engine

- Carefully-fitted pistons provide flywheel.
- Rotating "Free" thousands of extra
- Forced, complete end overheating
- Electrically balanced smoother operation

diesel engine

- Fuel injectors to every cylinder performance throughout operating range
- Economy range speed to most fuel savings
- Best diesel service mechanics, training

sixes

v-8's

diesels

famous, proved line of GMC six-cylinder engines with every specialized requirement dollars-ahead, time-ahead performance.

Newest contenders for the powerful load-moving reputation of GMC TRUCKS... modern, trend-setting V-8 engines. Choice of owners who demand peak performance throughout their operating range. GMC-built for long, dependable, low-cost service.

Four- and six-cylinder GMC diesel engines produce maximum power on every stroke for smoother-running, faster accelerating load-moving ability. Reliable, direct fuel injection eliminates long, high-pressure fuel lines.

Gross H.P.	Gross Torque
130	238 @ 1200-2000
140	246 @ 1400-2000
160	268 @ 1600-2200
217	455 @ 1000-1600

Displacement Cu. In.	Gross H.P.	Gross Torque
336	200	307 @ 2000-2400
370	232	355 @ 2600

Displacement Cu. In.	Gross H.P.	Gross Torque
4-71-283.7	152 @ 2300	374 @ 1500-1600
6-71 SE-425.6	189 @ 1800	577 @ 1200
6-71 SE-425.6	210 @ 2100	577 @ 1200

Light truck WEIGHT

more payload pounds

Trucks have big carrying capacities... practical savings without sacrificing strength and GMC is continually engineering pounds-per-engine throughout its line. For example, over 1000 pounds in the new model, this new GMC D860 will haul a 1000 pounds more payload! Here's why—



A Cab and sheet metal weight reduced—385 pounds—by liberal use of aluminum and other lightweight materials.

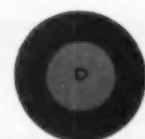
B GMC diesel engine weight is 334 pounds less.

C Transmission and clutch save 63 pounds.

D Axles, wheels and hubs on truck weight 214 pounds.

E Frame and suspension are lighter.

Miscellaneous features save



TOTAL D860 WEIGHT SAVINGS—



ample, low-cost POWER

gasoline powered

sixes

This is the famous, proved line of GMC six-cylinder engines with every specialized requirement for dollars-ahead, time-ahead performance.

Displacement Cu. In.	Gross H.P.	Gross Torque
270A	130	238 @ 1200-2000
270B	140	246 @ 1400-2000
302	160	268 @ 1600-2200
503	217	455 @ 1000-1600

v-8's

Newest contenders for the powerful load-moving reputation of GMC TRUCKS... modern, trend-setting V-8 engines. Choice of owners who demand peak performance throughout their operating range. GMC-built for long, dependable, low-cost service.

Displacement Cu. In.	Gross H.P.	Gross Torque
336	200	307 @ 2000-2400
370	232	355 @ 2600

two-cycle

diesels

Four- and six-cylinder GMC diesel engines produce maximum power on *every* stroke for smoother-running, faster accelerating load-moving ability. Reliable, direct fuel injection eliminates long, high-pressure fuel lines.

Displacement Cu. In.	Gross H.P.	Gross Torque
4-71-283.7	152 @ 2300	374 @ 1500-1600
6-71 SE-425.6	189 @ 1800	577 @ 1200
6-71 SE-425.6	210 @ 2100	577 @ 1200

extra

gasoline engine

- Carefully-fitted pistons provide flywheel.
- Rotating "Free" thousands of ex
- Forced, complet
- Electrically bala
- smoother operat

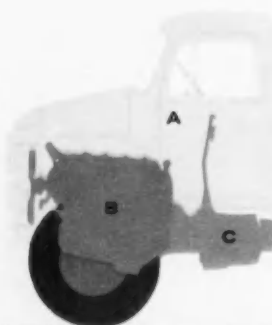
diesel engine

- Fuel injectors t
- to every cylinde
- performance th
- operating range
- Economy range
- speed to most e
- fuel savings
- Best diesel servi
- mechanics, train

ght truck WEIGHT

more payload pounds

GMC Trucks have big carrying capacities... practical weight savings without sacrificing strength and ability. And GMC is continually engineering pounds-advances throughout its line. For example, over comparable model, this new GMC D860 will haul a of 1,270 pounds more payload! Here's why—

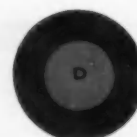


- A Cab and sheet metal weight reduced—385 pounds—by liberal use of aluminum and other lightweight materials.
- B GMC diesel engine weight is 334 pounds less.
- C Transmission and clutch save 63 pounds.

- D Axles, wheels and hubs on truck weight 214 pounds.

- E Frame and suspension are lighter.

Miscellaneous features save



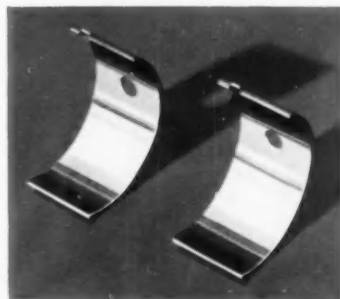
TOTAL D860 WEIGHT SAVINGS—1



extra quality features standard on GMC engines

gasoline engines

- Carefully-fitted and precision-weighted pistons provide balanced power from fan to flywheel.
- Rotating "Free Valve" action gives thousands of extra trouble-free miles.
- Forced, complete cooling to all "hot spots" end overheating and downtime.
- Electrically balanced crankshafts for smoother operation.



Here are the best automotive bearings available . . . GMC Moraine bearings with seven times the life of conventional metals. No engine in any truck has sturdier bearing protection.



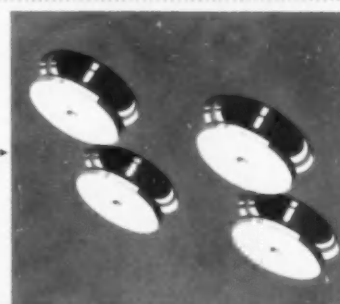
Rifle drilled connecting rods guarantee positive lubrication, eliminate wear and costly failures.

diesel engines

- Fuel injectors that economically meter fuel to every cylinder and provide best performance throughout the entire operating range.
- Economy range governor controls engine speed to most efficient RPM for greatest fuel savings.
- Best diesel service in the U.S. . . . Best diesel mechanics, trained by GM.



This automatically controlled fan saves up to 7% H.P. and 5% fuel . . . and only GMC offers these savings.



FOUR exhaust valves per cylinder (not one or two) assure complete scavenging of exhaust gases. Made of special "Jet Blade" material for lasting dependability.

l pounds

axles, wheels and hubs on the D860 cut truck weight 214 pounds.

frame and suspension are 121 pounds lighter.

Miscellaneous features save 153 pounds.

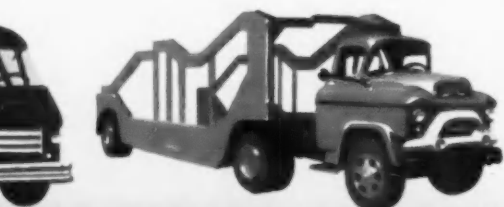
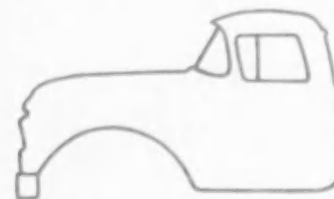
HT SAVINGS—1,270 POUNDS

ideal DIMENSIONS for every state—every weight

To meet all legal restrictions, GMC builds conventional, COE, and Tilt-Cab models—set-back and set-forward front axles—wheelbases from 108 inches, including any special lengths . . . four- and six-wheeler models up to 90,000 lbs. GCW.



your choice of
9 different BBC dimensions
48" to 114"



GMC

the complete line
of quality trucks



Announcing the new Timken-Detroit®

"center point" steer front axles

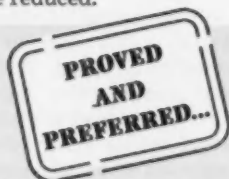
**for easier steering, greater safety,
and reduced maintenance costs!**

Timken-Detroit's new "Center Point" Steer Front Axles give your heavy-duty vehicles the advantage of easy steering without the additional weight and cost penalties of power assistance.

With Center Point Design the king pin is perpendicular to the ground, and is moved outward into the wheel. This puts the centerline of the tire and the centerline of the wheel on a relatively common plane. Because the king pin is in a true vertical position, it eliminates the heavy front end "load lifting" that is normally required when turning the conventional axle.

Steering resistance is thus greatly reduced, at no sacrifice in vehicle control. Drivers become less fatigued, safety is increased. And because road shocks and lateral pressures are transmitted more directly to the axle beam, tires and steering parts last longer . . . maintenance costs and downtime are reduced.

© 1958, R-S Corp.



**WORLD'S LARGEST
MANUFACTURER OF
AXLES FOR TRUCKS,
BUSES AND TRAILERS**



TIMKEN-DETROIT CENTER POINT STEER FRONT AXLES

Give You Three Major Advantages:

Easy steering—less weight, lower cost than with power assistance!

Safer operation—better vehicle control and less driver fatigue!

Reduced maintenance costs—tires and steering parts last longer!

Plants at: Detroit, Michigan
Oshkosh, Wisconsin • Kenton and Newark, Ohio
New Castle, Pennsylvania



Products of **ROCKWELL-STANDARD Corporation**

How Transit Top Management Sees the Maintenance Man



C. L. Patterson, right, New York City Transit Authority chairman, has Hy Feldman leading his maintenance team

Relationship of maintenance men to top management got the spotlight at the first Mechanical Division session of American Transit Assn.'s recent annual meeting in New Orleans, La.

Commercial Car Journal's Executive Editor Murray Simkins attended, reported back that the discussion "... represents what I feel has been the best session that the Association has ever set up ... showing maintenance people that they have plenty of responsibilities in cutting costs and keeping transit properties in the black."

Maintenance men on the program were impressed

● J. T. Hurry of Dallas (Texas) Transit said, "They all talk my language."

● C. E. Krueger, Cleveland (Ohio) Transit superintendent of equipment, added his endorsement . . . "I found it very illuminating to sit here and listen to their views. I hope you have all taken their remarks to mind and to memory."

● R. W. Ziffle, New Orleans (La.) Public Service, pointed out that the speakers "... each keynoted the necessity for a clear line of communication between top management and the maintenance department . . ."

● W. W. Kunz, Niagara Frontier Superintendent of equipment, described the speakers as "... men who practice what they preach; the best proof of that fact being the mechanical men who represent their problems in our meeting."

Charles L. Patterson, New York City Transit Authority chairman, says maintenance men should know top management policies, organize to produce results, plan efficient maintenance

WE IN THE transit industry have only one thing to sell and that is "Transportation" of people. To sell transportation we must give adequate service to our customers at the lowest possible cost.

Top management looks to the Transportation Dept. to furnish that service on schedule and without delays, and that is where you maintenance men come in. You are the servicing agents who supply the tools for the operating people to do their job.

Without you they could not do it. These tools are the vehicles they need for service. They are entitled to get them in top-notch condition and to have them stay out on the road after they are put into service.

Now what do we expect of maintenance men in order that you may fulfill that obligation. . . .

First: You must acquaint yourselves with top management policies through direct association by individual or group meetings at regular periods.

Second: You must develop an organization to produce planned results through leadership and delegation of authority and responsibility to get proper supervision and production.

One of the most important of your duties is to see that you have the right men (or women, if you please) for the job to be done. Don't above all, pick a square peg for a round hole. You just won't get results. There are many people in our industry who may have the engineering know-how but don't have the necessary make-up to handle men and vice-versa. So pick the right man for the right job. You can

(TURN TO PAGE 136, PLEASE)



O. Roy Chalk, left, is new president of (Washington) D. C. Transit where Al Savage heads the Mechanical Dept.



Harley Swift, right, is president of Harrisburg (Pa.) Railways with Vic Zimmerman directing the maintenance

He should have "qualities of wholehearted cooperation, practical imagination and a tenacious desire to follow through," says O. Roy Chalk, (Washington) D. C. Transit president.....

Harley L. Swift, Harrisburg (Pa.) Railways president, emphasized maintenance—top management relationship by looking at it from the maintenance man's viewpoint.....

▼ TOP MANAGEMENT expects its maintenance men to keep its vehicles in the best possible condition for the least possible cost per mile. That, I am sure, has been the aim of all of you.

But what top management has in mind goes far beyond such fundamental aims. The qualities of wholehearted cooperation, practical imagination, and a tenacious desire to follow through, are characteristics which must necessarily supplement the ability to apply routine time-tested approaches.

We, at D. C. Transit have, I am sure, a unique approach to solving this problem. Our complete operating activities are governed by what we call the General Operations Committee whose membership includes the Director of Transportation, the Director of the Mechanical Dept., Engineer of Way and Structures, and the Director of Personnel and Labor Relations. This group as an entity performs the functions of an operating manager.

Its four members rotate the Chairmanship on a semi-annual basis. Cooperation among their activities is automatically assured because each member has the feeling and rightly so, that he has a certain amount of interest in each of the other operating departments as well as a definite responsibility to management for the operations as a whole.

As a matter of fact, the Director of the Mechanical Department comes very close to having the responsibilities of an operating manager one-fourth of the time when he is Chairman of the Committee. It is

(TURN TO PAGE 144, PLEASE)

▼ IF I WERE the maintenance boss, I would like to see the President, some of the Directors (for they, too, are top management), the General Manager, the Claim Agent, the Purchasing Agent, the Superintendent of Transportation, and the Schedule man come through the inspection lanes, the unit repair room, the body shop—my whole maintenance establishment once a week.

I'd like them to stop and watch the work being done, talk to the man doing it, pick up and get the feel of the tools the man is using. I'd like top management to get the feel of my shop, to see our problems. They have often been made by top management decisions. I'd like them to see how top management is bailed out by the ingenuity and esprit de corps of the man with the wrench and screw driver.

After a while, when the bosses get a little familiar with the difference in ease and frequency of maintenance of different makes and types of accessories, they'd ask and accept my recommendation before they spent capital funds. Yea, and I betcha it wouldn't be long until I'd get some of those modern, time-saving tools I've been after for so long.

Somehow, I think these more close contacts would change top-side thinking that cutting back on maintenance or shutting the shop down for periods of time is a good way to cut cost and save money. Actually, doing that amounts to saving at the bung hole and losing at the spigot. I can show him, if he will listen to me, that the shop never catches up after a shutdown.

(TURN TO PAGE 148, PLEASE)



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Here's good news for all users of AERO-SEAL, the finest hose clamps. Now you pay no premium for the new, improved AERO-SEAL JETS. The Jets have a new, exclusive patented feature that permits faster installation and removal. To attach, just push housing to desired position on the band, snugly around the hose and threads of the worm drive screw will drop in the slots. Now tighten the screw to fasten securely. To remove, loosen the worm screw and at the same time lift screw-driver head and clamp will open. Stick to the finest, at no extra cost. Get genuine AERO-SEALS, jet or regular — the hose clamps that out-sell and out-perform them all.

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BRAKES: THE PROBLEM

One interesting highlight of Society of Automotive Engineers recently held Transportation Meeting was a clear definition of today's heavy vehicle brake problem by F. T. Cox, Jr., Rockwell-Standard Corp. It's briefed below.

More interesting, two new answers to the problem were described at the meeting. Details on these are at right.

The Problem

SOME YEARS AGO, a pretty good balance between brakes and requirements was reached. Since that time, loads have increased somewhat, speeds have more than doubled, horsepower has tripled . . . even quadrupled. Heavily loaded commercial vehicles used to be lucky to reach the top of some long grades at five or 10 mph. Now they're rolling over the crest of these hills at 40 mph. You can readily understand the terrific requirement placed on brakes today.

"Space for better brakes has been further limited by . . . an increased trend to smaller tire rim diameters . . . to lower the center of gravity . . . and to allow more load space. In an attempt to keep up with this . . . drum diameter was reduced . . . widths were increased. Thickness of the lining was increased. At the same time, actuation power was increased.

"At present, with a 16½-in. brake and a 20-in. base tire . . . there is very little air space into which the heat generated in braking may be dissipated. This not only lowers the effectiveness and shortens the life of the brake but, in many cases, shortens the life of the tires by bringing their temperatures to a point that causes rapid deterioration.

"In reference to brake drums . . . it generally follows that a good drum is a heavy drum. "This is contrary to the desires of most fleet operators as any weight added . . . comes out of the revenue load. On the other hand, reduction in drum weight may decrease the life of the drum itself and the mating brake parts to a point where their early replacement costs, plus downtime caused by their failures, may far exceed the additional revenue brought about by the increased payload."

Answer from Rockwell-Standard

AFTER DESCRIBING today's brake problem, Cox went on to describe Rockwell-Standard's new Stopmaster brake. It's an internal-expanding, floating, 15-in., two shoe brake. Here, in brief, is how he described its features and development. . . .

"Inasmuch as vehicles are now designed to best accommodate an internal expanding shoe drum brake, it was decided . . . to obtain the ultimate from this type brake.

"In order to obtain required performance, it was readily determined that it would be necessary to depart from the fixed anchor type of brake. . . . A brake of balanced design would be required. This means that each shoe does its proportionate share of work. This

Answer from Wagner Electric

A LIQUID-COOLED, disc brake for commercial vehicles was described by J. D. Dudley of Wagner Electric Corp. It has these advantages . . .

- Faster heat dissipation, especially under severe conditions, to give longer lining and drum life.
- It fits into smaller wheels, an important factor in the search for more trailer cube.
- It reduces unsprung weight on the axle, up to 124 lb per axle, says Wagner.
- It's designed to function as a retarder as well as a service brake.

Because it combines two features not found on most brakes—liquid cooling and disc braking, an all-in-one-bite description makes it sound more complicated than it is. So let's take these features one at a time.

Coolant used is from the engine cooling system. It's pushed through the brake system and back to the radiator by a belt-driven, positive displacement pump.

Stopping a vehicle depends on the brake system's ability to absorb the vehicle's forward movement energy in the form of heat energy. Wagner's new disc brake can absorb this energy at a higher rate than the cooling system's radiator can dissipate it as heat. So to get the most from the new brake, you can use

AND TWO NEW ANSWERS

Corp.—A Liquid-Cooled Disc Brake

also eliminates unbalanced loads and prevents overloading of wheel bearings. . . .

"Further it was decided that . . .

if at all possible, the brake diameter should be reduced. . . . After investigating the brake location and mounting means available on present-day vehicles, it was determined that a brake of 15-in. diameter would be about the smallest that could be used. . . .

"This, when used with the 20-in. base tire, sets up a much better condition for cooling of the drum by permitting additional air space between the drum and the rim when compared to the 16½-in. diameter.

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Corp.—A Floating Two-Shoe Brake

a larger radiator or an extra storage tank in the brake coolant line.

Advantage of the storage tank is that it permits "heat storage." Thus part of the heat can be dissipated when the vehicle is running normally after the brake application instead of all at once.

Disc brake itself has nine

major parts (as illustrated at right). On the wheel—taking the place of the conventional drum—is a driver.

(1) Its teeth extend into the brake housing to engage the lining disc (3).

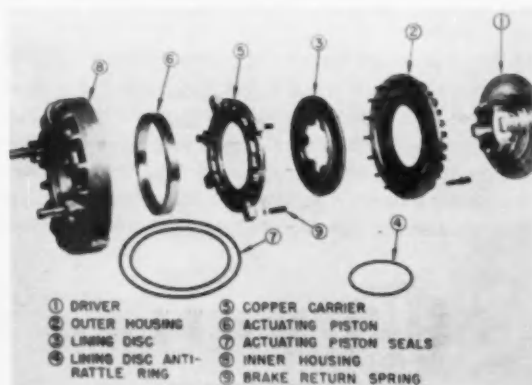
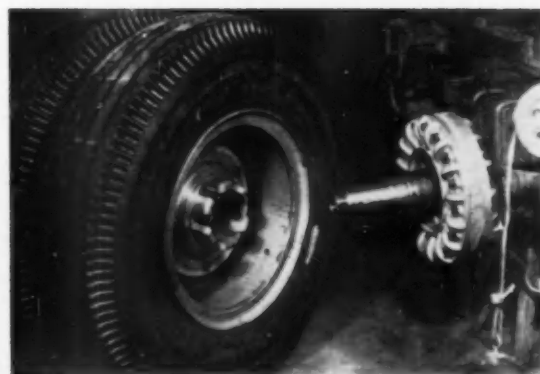
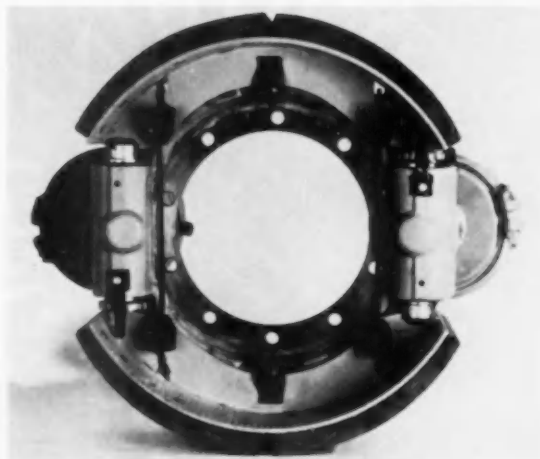
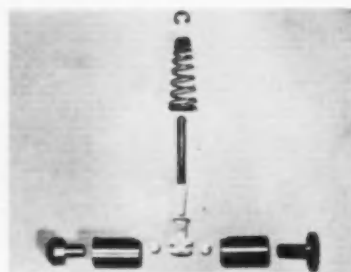
Brake is totally enclosed in a two-piece aluminum housing (2 & 8). The coolant plumbing connects to the inner half (8). Coolant flows through passages in the carrier (5) and in the outer housing (2).

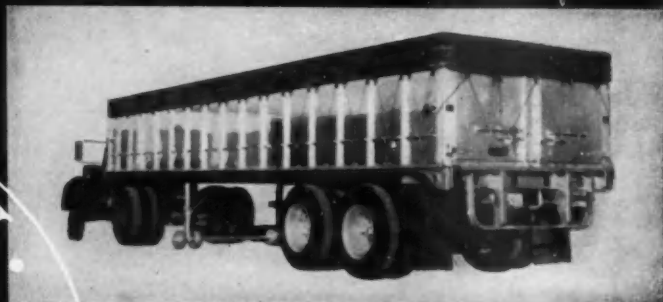
Using air-over-hydraulic actuation, a circular piston (6) pushes the carrier. This squeezes the lining disc between the carrier and outer housing.

Lining is bonded to both faces of the lining disc. In braking, it contacts copper friction plates riveted to the carrier and outer housing. There's an automatic adjuster to compensate for lining wear.

Present models of the new brake fit 18 or 20-in. wheels within present axle load limits. Wagner says it can be modified without diameter change for higher

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DURABLE U. S. FIBERTHIN® TARPS SHED WATER . . . KEEP TRUCK WEIGHT DOWN!

Leading truckers are fast finding out the many ways tough U. S. Fiberthin tarps save money—by cutting costs and increasing pay loads. U. S. Fiberthin is so extremely light in weight, you carry more pay goods to start. It can't soak up water-weight so you don't have to allow for this extra load. And you save on make-ready time because easy-to-handle U. S. Fiberthin takes less man power to work on and off. Made of ribbon-like threads

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United States Rubber

Mishawaka, Indiana

Where to find it . . .

CCJ'S 1958 INDEX

Listing the year's features under 15 subjects, making it
easy to locate articles for re-reading or putting to work

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"There's no excuse for not using Mack diesels —when you get the kind of performance we get," says H. M. Egner of Galion, Ohio. "We're realizing consistently low fuel consumption . . . maintenance costs have been

reduced tremendously . . . and you can't touch Macks for dependable operation. As for our drivers, they tell us that Macks are the most comfortable units to drive that they've ever handled."

H. M. Egner says:

"Top performance! That's why we're switching to MACK diesels"

"Frankly, we had to be shown," says Mr. H. M. Egner, president of F. J. Egner & Son, Inc., midwestern liquid haulers. "But the economy and long life of Mack Thermodyne® engines did just that.

"About two years ago we decided to try out two Mack diesels. No babying, either. These units had to get out and haul our heaviest loads over our toughest routes . . . meet our most rigorous schedules . . . undergo our most searching cost analysis. And they met every test with plenty to spare!

"On the strength of their performance, we replaced about half our 125 power units with Mack

diesels and will continue to add more diesels as fast as it's economically feasible."

* * *

Why not profit by Egner's experience? Ask your Mack branch or distributor to send over an expert on more profitable hauling for you—soon. Mack Trucks, Inc., Plainfield, New Jersey. In Canada: Mack Trucks of Canada, Ltd.

MACK
first name for
TRUCKS



Power-tilt cab has compact styling. The series includes 106-226 in. wheelbases, five diesel engines, up to 262 hp

Cab's interior design puts all controls, including pencil-type power assist shift stick in easy reach of the driver

White's New 5000 Measures 50 in. BBC

It will haul 43 $\frac{3}{4}$ ft trailer and meet 50 ft state length laws

WHITE'S NEW 5000 Series COE tractors measure 50 in. from front-of-bumper-to-back-of-cab. Aim is to provide a power unit giving optimum payload in all states, maximum interstate flexibility.

In 50-ft overall limit states, standard tractor models will handle a 43-ft, 8-in. square nose, 10-in. corner radius trailer. Sleeper cab models in 50-ft states take the same style trailer in 40-ft length. For 60-ft states, the standard model will fit with 25 $\frac{1}{2}$ -ft doubles.

Sleeper cab models available have 23-in. bunk with 72-in. BBC dimension or 31-in. bunk with 81-in. BBC dimension.

Standard wheelbase is 106 in. with nine options ranging up to 226 in. Frame is single channel, heat treated chrome manganese steel, measures 9 $\frac{1}{8}$ x 3 $\frac{1}{8}$ x $\frac{1}{4}$ in. For extremely long wheelbases a heat treated chrome manganese molybdenum steel is used with greater cross section—9 $\frac{1}{2}$ x 3 $\frac{1}{4}$ x 5/16 in.

Five diesel power plants are offered. All fit within the 50-in. dimension without overhang. Standard is the Cummins NH180 with 180 hp. Options reach up to 262 hp. include Cummins HRFB, NH195, NH220 and NTO.

Transmission is a 9-speed synchromesh Clark unit. It has a power shift assist and aluminum case. Drop box at rear lowers drive shaft 83/16 in. to reduce propeller shaft angularity. Clutch is a 14-in. two-plate model, air actuated.

Rear axle is White's Model No. 124C single reduction, full floating unit. It has an 18 $\frac{1}{2}$ -in. ring gear. White's Model No. 134C is optional.

Basic model without fuel and 5th wheel tips the scale at 10,570 lb. It has a 95 $\frac{1}{2}$ -in. overall width, measures 119 in. to top of muffler outlet pipe with 10.00-20 tires.

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**For full-time
protection**

**... call for
HASTINGS**

You can install Hastings Oil Filter Cartridges and *know* you'll have clean oil all the time . . . from filter change to filter change. The reason is *Densite!*

Densite is an entirely different type of filtering material. Many millions of selected cotton fibres—pressure packed—absorb dirt far beyond the capacity of ordinary filters.

Next time you change cartridges, call for Hastings and get *full time* protection!

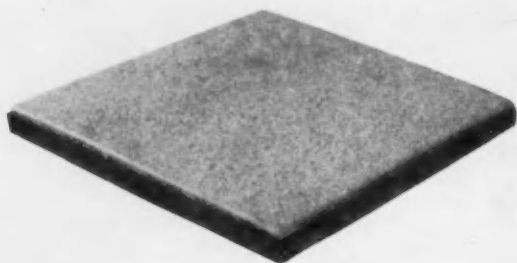
HASTINGS MANUFACTURING COMPANY, HASTINGS, MICHIGAN
Filters, Piston Rings, Casite, Wear Reducer, Spark Plugs

**Hastings Oil Filter Cartridges
keep oil clean from filter change
to filter change***

U. S. Patent Nos.
2,797,811
2,584,771



*When replaced as normally recommended. Proved by tests conducted under supervision of Pittsburgh Testing Laboratories, in accordance with U. S. Bureau of Standards procedure.



Prefab Trailer Floor Is Light, Tough, Oilproof

NEW PANELS for truck and trailer floors have recently been developed by Plant Maintenance, Inc., Cleveland 21, Ohio. Called the "Poly Rock" Prefabricated Floor Panel System, the panels are made of a tough sandpaper-like material $\frac{3}{8}$ -in. thick (see photo) which is fused to a tempered wood base. The maker says the synthetic composition is tougher than concrete, both for shock resistance and wearability.

The panels are placed over old flooring and fastened in place, then fused together to make a barely noticeable seam. (See illustration.) Entire job is about half the cost of a new wood floor. Standard panels are 4 ft wide, weigh about 2 lb per sq ft.

Oil, grease and acids

will not damage the floor, says the manufacturer. In addition, it is non-slip and strong enough to withstand any load carried by a fork lift truck—as long as the base will support such loading. The panels take the punishment while the floor boards support the load.

The floor panels are said to be ideal for reefer use as they are water-proof, brine-proof and blood-proof.

For new trailer flooring,

by using the prefab panels, cost and weight are both reduced. Lumber need not be tongue and groove or ship-lap but only strong enough to support proper loading between the cross sills. "Poly Rock" panels are then installed giving a tough, lightweight floor. Should the need occur, individual panels can be replaced section by section.

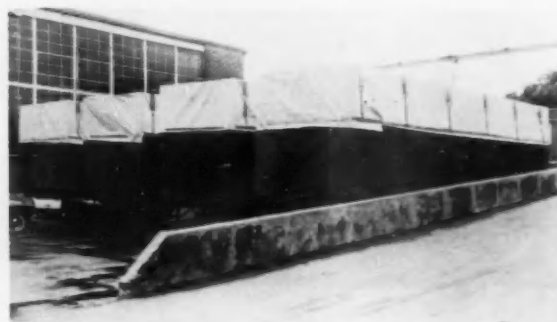


"Paper Bag" Tarpaulin Cuts Costs, Speeds Loading

HUSSMANN REFRIGERATION, INC., the nation's largest manufacturer of food store refrigeration units, has switched to paper tarpaulins on its custom-designed trailers. The paper specialty covers are disposable which saves unloading time since special handling is eliminated.

The specialty cover is

made of Scrimtex, a quilon-treated paper reinforced with fiberglass which is made by the Mosinee Paper Mills Co. The cover itself is produced by Bemis Bro. Bag Co. It



weighs 24 lb and measures slightly over 40 ft in length and 15 ft in width. It is specially creased to fold quickly and easily.

Hussman products were initially packed in wooden crates and shipped in a closed van-type trailer. However, due to the size of the refrigeration units, there was a lot of unused space in the trailer.

To solve the problem,

Hussmann engineers redesigned a flat bed trailer putting special I beams on the sides. The new trailer (there are now 12) has two levels with an open top. This meant a flexible cover to protect the units from abrasion and the weather. Hussman tried canvas covers but found them too costly in view of the short time they were used before being torn.

After testing Bemis' paper tarpaulins and finding them satisfactory, Hussman put them into service. Once the trailer is loaded, the disposable tarp is unfolded over the load, over-lapping the upper level 3 ft on each side. Lath is then placed against the paper and nailed to a board running horizontally the length of the trailer. Webbed belts are placed over the load and anchored to the side frame. A canvas curtain on the side frame is then lowered. The entire operation takes less than an hour.

At destination, removing the tarpaulin is no problem. The refrigeration units are unloaded in about half the time using skids carried under the trailer floor. Hussmann says many customers save the paper tarps to protect products they are forced to store outdoors.



GVW vs PAY-LOAD

WHERE A POUND SAVED IS A DOLLAR EARNED!

By saving dead weight, vacuum power can add several hundred pounds to pay-load, and earn extra dollars, as ton-miles build up.

In addition there is vital safety in having physical braking instantly available should power fail for any reason.

For these and other important reasons, vacuum power is the overwhelming choice on trucks, and HYDROVAC* leads all other makes combined.

...It will pay you to look into

HYDROVAC (VACUUM HYDRAULIC) POWER BRAKING BY BENDIX

*REG. U.S. PAT. OFF.

Bendix PRODUCTS DIVISION South Bend, IND.



December News Roundup

Pa. Turnpike Honors 25 Millionth Trucker

CLEON W. JONES, a tractor-trailer driver for Motor Cargo, Inc., Akron, Ohio, was honored recently as being the 25 millionth trucker to use the Pennsylvania Turnpike since its opening some 18 years ago. He was notified of the honor when he entered the turnpike at the Gateway Interchange Sunday night, Oct. 26, enroute to Philadelphia.

Actually, he became the driver of the significant vehicle two days before when he drove the turnpike on another trip to Philadelphia. However, it required two days to process his toll ticket to determine that he was actually the 25 millionth truck driver to use the turnpike.

Jones is a resident of Upland, Chester County, Pa., and a Navy veteran of World War II. He has driven for Motor Cargo since 1948. He recently received a safety citation from the company for eight years of consecutive accident-less driving.



Franklin V. Summers (left), operations director for the Pennsylvania Turnpike Commission, chats with Cleon W. Jones, driver of 25-millionth truck. With them are Victor Kahley, president of Pennsylvania Motor Truck Assn., and Edward Gogolin, vice president and general manager of the Association.

At ceremonies held

October 27 at the Harrisburg East Interchange of the turnpike, Commission Operations Director Franklin V. Summers expressed the commission's appreciation to the trucking industry for its contribution to the success of Pennsylvania's Turnpike System. He pointed out that commercial vehicles comprised less than a fifth of total turnpike traffic but paid almost three-fifths of the tolls collected since the turnpike was opened to traffic in October, 1940.

Over the weekend following Thanksgiving Day, Jones and his wife were treated to a two-day all expense paid vacation at Pocono Manor Inn as guests of the Commission and John M. Crandall, general manager of the year-round resort.

1959 Buyers' Guide

Here are some additions to your November issue—the 1959 Fleet Buyers' Directory . . .

BATTERIES, Storage

Exide Storage Battery Div., Electric Storage Battery Co., 246 East 131st St., Cleveland 1, Ohio.
Grant Storage Battery Div., Electric Storage Battery Co., 226 North Second St., Minneapolis, Minn.
Willard Storage Battery Div., Electric Storage Battery Co., 246 East 131st St., Cleveland 1, Ohio.

CHARGERS, Battery

Exide Storage Battery Div., Electric Storage Battery Co., 246 East 131st St., Cleveland 1, Ohio.
Grant Storage Battery Div., Electric Storage Battery Co., 226 North Second St., Minneapolis, Minn.
Willard Storage Battery Div., Electric Storage Battery Co., 246 East 131st St., Cleveland 1, Ohio.

LAMPS, Back-Up, Clearance, Cowl, Dome, Fender, Tail, Parking and Stop

Arrow Safety Device Co., Mt. Holly, N. J.

LAMPS, Fog, Head and Spot

Arrow Safety Device Co., Mt. Holly, N. J.

LAMPS, Warning

Arrow Safety Device Co., Mt. Holly, N. J.

LAMPS, Tell-Tale, Rear Signal, Tail and Dash

Arrow Safety Device Co., Mt. Holly, N. J.

MIRRORS, Panel, Bus

Arrow Safety Device Co., Mt. Holly, N. J.

SWITCHES, Light

Arrow Safety Device Co., Mt. Holly, N. J.

THE WINNERS—National Truck Rodeo held middle of last month in the Miami Beach (Fla.) Exhibition Hall brought forth much truck driving skill, lots of competition. The new champions are (from left) Straight Truck—Leo W. Ford, Sr., of Durham, N. C., Pilot Freight Carriers; Three Axle Tractor-Trailer—Hubert L. Kennedy of Cincinnati, Ohio, National Transit Corp.; Four Axle Tractor-Trailer—Robert E. Rudesill of Minneapolis, Minn., Glendenning Motorways; Five Axle Tractor-Trailer—

Floyd F. Brown of Milwaukee, Wis., Motor Cargo; Tank Truck—Hayter C. Brown, Jr., of Harrisonburg, Va., Mason & Dixon Lines. At far right, the winning team from Maryland. Maryland Motor Truck Assn. President Frank Luther (center) holds their trophy. Others shown include (from left) William K. Heiser of Davidson Transfer & Storage, Carl Jacobs of National Automotive Mutual Insurance Companies (sponsors of the trophy), Jesse E. Albright and Virgil J. Huff, both of City Express Company.





REO

Unique to Reo and its complete line of Gold Comet engines, V-8's and 6's—is its advanced “wet-sleeve” replaceable cylinder construction. This design, together with the special alloy materials used and close tolerances to which pistons and cylinders are uniformly controlled, assures unsurpassed cylinder wall life. **Unlike conventional engines, a Reo engine never requires re-boring.** When it reaches the point of overhaul, it can be restored to its original standards of performance by any mechanic with the use of low cost factory matched cylinder-piston kits. Advanced “wet-sleeve” construction is another way in which important hidden values are built into every Reo engine . . . gasoline, LP-Gas and Diesel.



REO DIVISION, The White Motor Company, Lansing, Michigan

GOLD STANDARD OF VALUES

Want Better Braking?

... Call on **MIDLAND!**



MIDLAND-ROSS CORPORATION

OWOSSO DIVISION • OWOSSO, MICHIGAN

The Only Complete Line of Braking Equipment



Now on highways and
streets everywhere, you'll
see a proud new trademark



It is with great pleasure and pride that we announce the combination of two great names in the truck and truck-trailer refrigeration industry: TropicAire and Coldmobile. This union enables us to offer fleet owners and operators, truck manufacturers and trailer manufacturers a complete line of refrigeration equipment ranging in capacity from $\frac{3}{4}$ tons to 8 tons of refrigeration. Write, call or wire for detailed catalog information and specifications.

ANOTHER PRODUCT OF



McGraw Edison Company
Tropic Aire Division
5201 W. 65th Street
Chicago 38, Illinois



MOBILE REFRIGERATION / AIR CONDITIONING



"TropicAire" and "Coldmobile" are trademarks of McGraw-Edison Co., Chicago.
Copyright 1958 by McGraw-Edison Co.

Special for Fleets!

**New Multi-Grade
Crankcase Lubricant**

*It's 3 Oils
in One*

SHELL ROTELLA T OIL

20W-40

A NEW ADDITION TO THE FAMOUS ROTELLA FAMILY

THIS NEW, PREMIUM QUALITY, heavy duty oil is specifically formulated for commercial fleet operation. It is the one oil for all seasons, where an SAE 20W, 30 or 40 oil is recommended . . . three grades of oil in one. It is now available after millions of miles in fleet service.

Rotella® T Oil 20W-40 is a multi-grade lubricant with all of the anti-wear properties that make Rotella Oils famous. It has the same alkaline additives that reduce engine wear . . . prevent rust, and corrosion too! It cuts maintenance and repair costs.

Rotella T Oil 20W-40 offers excellent detergent-dispersant action . . . keeps harmful engine deposits to a minimum. You get maximum performance and top economy either in continuous heavy-duty operation or stop-and-go service. Write or call for complete information on Rotella T Oil 20W-40:

SHELL OIL COMPANY

50 WEST 50th STREET, NEW YORK 20, N. Y.

SHELL ROTELLA T OIL
50013
FOR API SERVICE
HH-HS-DG-DN

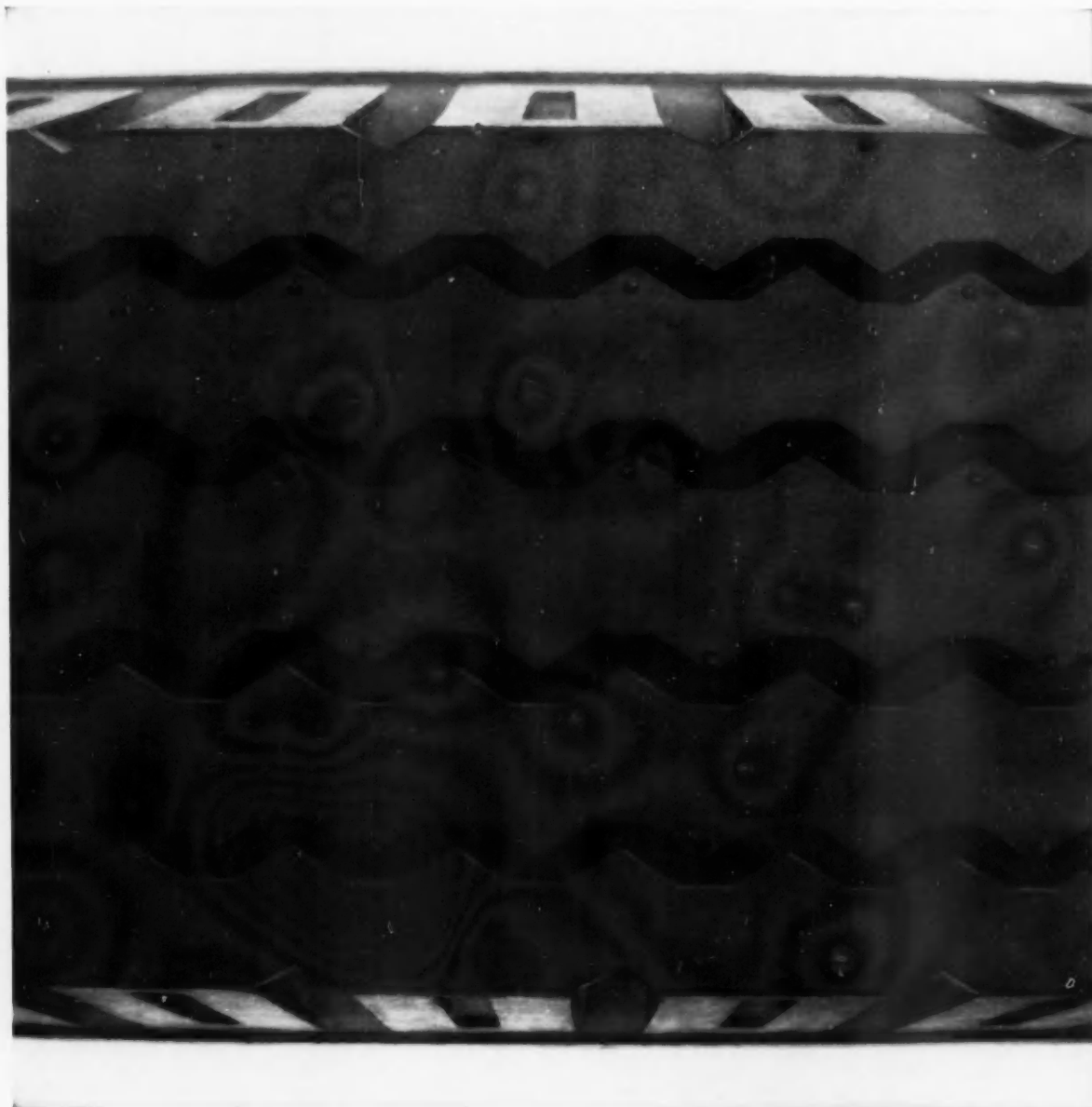
RUNNING HOT
it's like a heavy-grade oil! Protects under the highest engine temperatures—holds its body.

RUNNING WARM
it keeps engines running for hundreds of thousands of miles!

STARTING COLD
it flows as freely as a light grade oil—gives easy starts without excessive battery drain.

SHELL

SHELL ROTELLA T OIL



5th retread!

(Because this truck tire casing is nylon)

Truckers looking for more tire mileage are finding it under the tread: in tough nylon casings.

Because nylon cord makes a stronger, more durable tire body, truckers are not only getting *more original mileage* but a *bonus of as many as 5 retreads in the bargain*.

And down time due to cord failure is really *kept down* because nylon cords have greater resistance to heat rupture, flex breaks, impact damage, moisture rot—the

major causes of blowouts.

Today, The Chemstrand Corporation, one of the country's top nylon suppliers is working to make nylon for tire cord even tougher.


Next time you're in the market for tires, remember: you pay less per mile when your fleet runs on long-wearing nylon cords.

Chemstrand® Nylon



Chemstrand makes only the yarn; America's finest mills and manufacturers do the rest.

THE CHEMSTRAND CORPORATION, 350 Fifth Ave., N. Y. 1 • Plants: CHEMSTRAND® NYLON — Pensacola, Fla. • ACRILAN® ACRYLIC FIBER — Decatur, Ala.



coming soon...

the coolest thing on wheels

the **NEW**
STOPMASTER
BRAKE!

Here are only some of the advantages the new Stopmaster brake will offer you!

COOLER OPERATING—For extended brake life and durability.

LIGHTER WEIGHT—For greater vehicle payload capacity.

LONGER DRUM LIFE—For more dependability—lower maintenance costs.

LESS BRAKE FADE—For safer . . . continuous operation.

LONGER LINER LIFE—For lower operating costs—less maintenance.

GREATER INTERCHANGEABILITY—Maximum number of common components for smaller parts inventory.

After years of research and development Rockwell-Standard will soon offer to the trucking industry the new Stopmaster brake, representing the most advanced brake design to be made available in three decades.

The Stopmaster has been proven by thousands of miles of rugged, demanding road trials . . . and by long hours of testing by trained technicians using the extensive laboratory facilities of the Rockwell-Standard Brake Division.

The many outstanding features of the Stopmaster brake make this design the answer to the industry's long-standing need for an improved, higher performance, more dependable brake.

© 1958, R-S Corp.

Another Product of...

ROCKWELL-STANDARD
CORPORATION

BRAKE DIVISION Ashtabula, Ohio



For every industrial, agricultural or automotive application where braking is required!

White's New 50-in BBC Tractor

Continued from Page 112

To attain lighter weight, cab is made basically of fibre glass reinforced plastic with some aluminum. Because the plastic can be formed into more intricate shapes, there are fewer cab parts.

White also emphasizes the insu-

lating quality of the fiber glass plastic construction, says the cab is warmer in winter, cooler in summer. There's less cab noise, too. Plastic and fiber glass construction does not have same vibration characteristics as metal.

Plastic body is not subject to rust, salt or road chemical corrosion, can be repaired quicker and easier than metal. Construction also permits more effective sealing of cab to keep out engine fumes.

Other cab features include electrically-operated two-way driver seat, electrically operated right hand ventipane and window, pencil-type power-assist shift stick, wide driver vision through windshield curved around at sides.

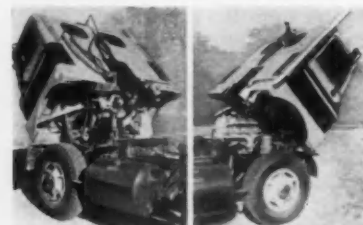
Larger radiator provides 1000 sq in. of surface aided by a 24-in. fan. Radiator is mounted above timing gear case to improve cooling through better air intake. Engine air comes through intake located at top of cab.

Front springs are semi-elliptic—four inches wide and 52½ in. long. Effective length of rear springs is 46 to 60 in. They're three inches wide. Rear springs are variable rate cam type. Rubber insert in spring hangers absorb small shocks to give a better ride. Front springs have threaded spring eyes and shackles. Larger wear area gives better lubrication, longer bearing life. Shock absorbers are heavy duty, direct-acting type.

To check engine oil level, there's an access door in front of



the cab. It permits checking tension and condition of fan belts also.

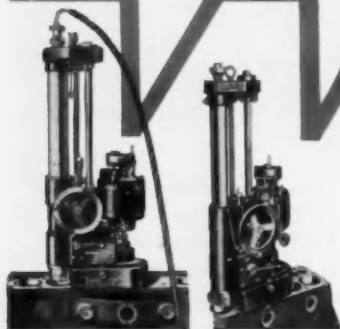


Cab readily tilts forward using
(TURN TO PAGE 126, PLEASE)

Kwik-Way

cylinder boring machines

pay for themselves in bigger profits



Model "FT" — Capacity:
2.630" to 5.9/32" —
14" stroke

Model "FR" — Capacity:
2.2" to 4.7/16" —
12½" stroke

Let us prove conclusively in your shop on an actual job how much faster you can do the job with Kwik-Way—how much easier it is to achieve accuracy that maintains your high standards of workmanship. We'll show you the features that make Kwik-Way Cylinder Boring Machines superior: overhead chip removal, screw feed with automatic retraction, quick, positive non-distorting anchoring. Built rugged for fast, easy sleeving. No need to work "blind."

let us demonstrate

MAIL THIS COUPON TODAY
Cedar Rapids Engineering Company
912 17th St. N.E., Cedar Rapids, Iowa

Gentlemen:

- ☐ Please arrange to come in and demonstrate without obligation, Kwik-Way Cylinder Boring machines.

- ☐ Send me further information and literature.

Name _____

Firm Name _____

Address _____

City _____

State _____

For a demonstration
with absolutely no obligation,
mail the coupon in this
advertisement, today.

PRECISION • SPEED • LONG LIFE

Kwik-Way

ENGINE RECONDITIONING EQUIPMENT



designed to

the No. 1 Safety Defect*

Illustration actual size

Arrow designs
with the

FLEET

in mind!

Arrow Giant Stoplights are available
for flush mounting (Model 499) or
bracket or stud mounting (Model 498)

ARROW

**SAFETY
DEVICE
COMPANY**

GEORGETOWN 2, DELAWARE

COMPLETE AUTOMOTIVE LIGHTING SYSTEMS, SAFETY EQUIPMENT AND MIRRORS

A full 7 inches of intensely brilliant light screams "STOP!" whenever your driver applies the brakes. Arrow's Giant Stoplight provides over 38 square inches of light that projects an instantaneous warning thousands of yards away!

...it's "maintenance-free"

- corrosion-resistant brass socket
- "seal-lite" pigtail design
- fadeproof, shatterproof lens
- asphalt-impregnated gasket for flush mounting
- one piece body construction

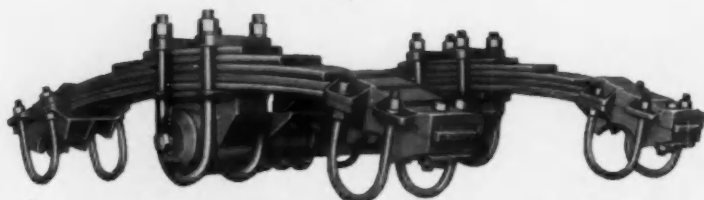
*Rear end lighting, according to a survey made by The Inter-Industry Highway Safety Committee

Boyertown Bus

A compact, economy model bus has been developed by the Boyertown Auto Body Works, Boyertown, Pa. It is available for installation on forward control chassis with wheelbases ranging from 104 to 137 in. Capacity is 15 adults or 20 schoolage children.



wear-free!
care-free!



the **"HUTCH-800"**

ADJUSTABLE ALIGNMENT SINGLE POINT TANDEM

After 2 years of intensive testing under the most gruelling conditions, Hutchens announces that users are finding 100% satisfaction with the outstanding "HUTCH-800" tandem. This is the first adjustable-alignment single point tandem on the market—built for heavy-duty use—yet making possible a new ease of ride that's truly amazing for such a heavy-duty unit! Complete rubber bushing throughout makes this possible! In addition, a $\frac{3}{8}$ -inch adjustment feature on the spring box makes possible *perfect alignment* to reduce tire wear and drag!

For complete details, write . . .



World's largest Independent manufacturer of suspension units!

Hutchens & Son Metal Products, Inc.

SPRINGFIELD, MISSOURI

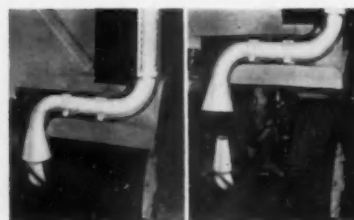
400 POINTS OF SALES AND SERVICE
IN THE UNITED STATES, CANADA AND MEXICO



White's 50-in. Tractor

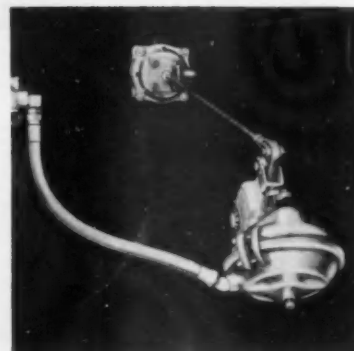
Continued from Page 124

the same key-actuated power tilt as used on White's 3000 Series. Exhaust pipe is in two pieces to permit cab tilt without manually disconnecting pipe. Upper end of this



connection is venturi shaped, draws in cool air to reduce stack temperature.

Parking brake is applied by two large springs housed within special design air cylinders. Brake is released when air pressure is applied



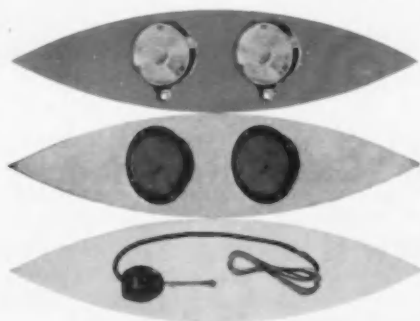
to the cylinders. Control is a finger tip valve in the cab. This brake is a "fail safe" design, automatically applies braking force in event of air pressure failure.

END

Please Resume Reading Page 114



Guide's High Visibility Reflectors and Turn Signals mean all-weather safety for your truck fleet !



Turn signal set has four lamps, self-cancelling switch...choice of bracket or flush mounting for rear lamps

Most often, trucks can't stop for bad weather. They must be on the road in rain, snow and sleet. It is in such weather, when visibility is low, that the danger of rear-end collisions rises sharply. And there's not much that even your best driver can do to avoid this hazard, if his truck is not clearly visible from the rear. Guide's high-visibility reflectors and turn signals can help prevent needless and costly delays. Because of their dependability and uniformly high quality, Guide reflectors and signals are specified as standard equipment by many leading vehicle manufacturers. Available at United Motors Service outlets and most truck dealers.

Guide Lamp ... BRIGHTEST NAME IN LIGHTS

GUIDE LAMP DIVISION • GENERAL MOTORS CORPORATION • ANDERSON, INDIANA

COMMERCIAL CAR JOURNAL, December, 1958

127

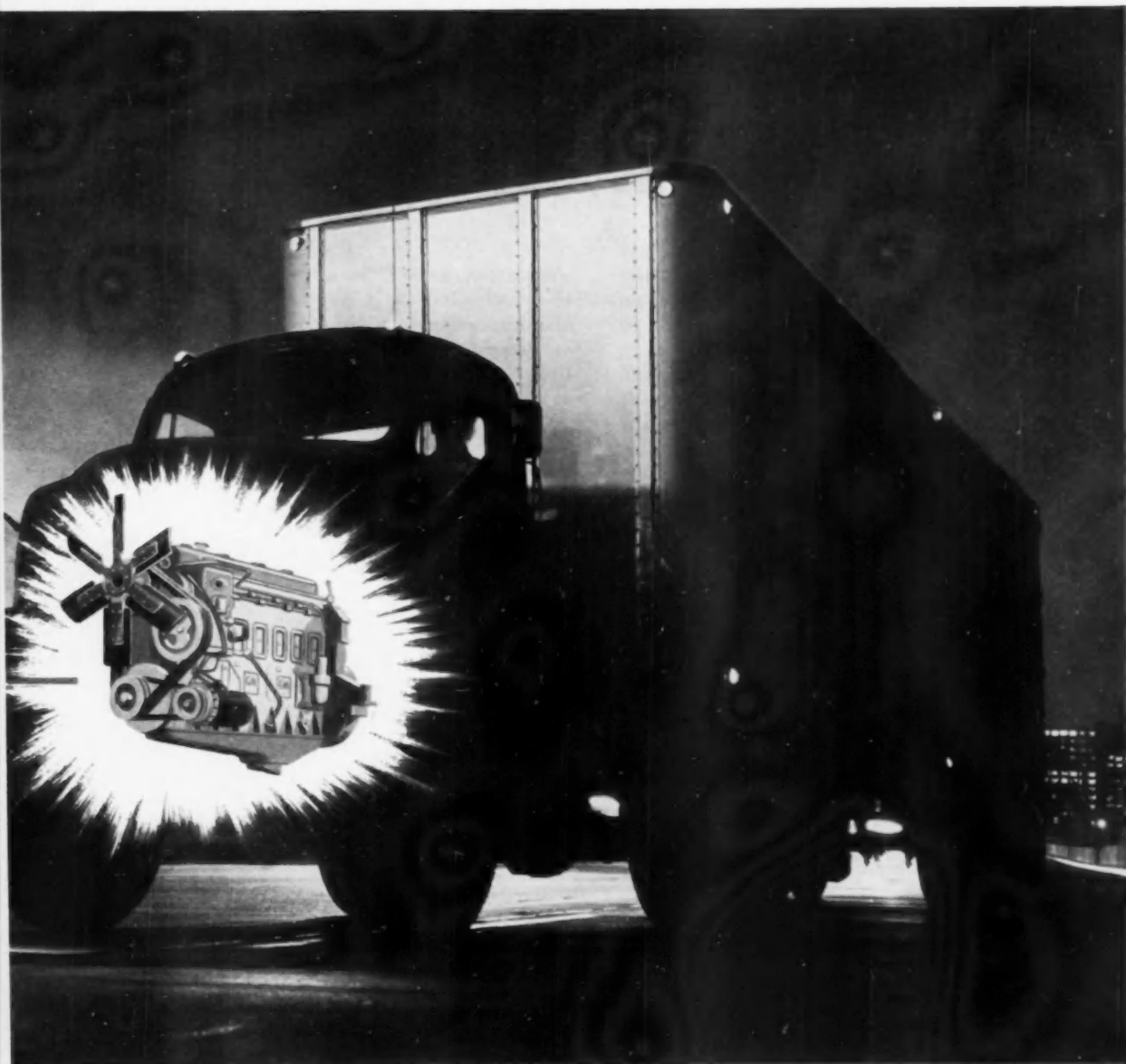
"JIMMY" DIESEL ENGINE SUCCESS!



A little over a year ago, the "Jimmy" Diesel was made available for any make of truck—now it is offered in trucks built by 8 important manufacturers!

Detroit Diesel Engine Division of General Motors,

In Canada: GENERAL MOTORS DIESEL LIMITED, London, Ontario • Regional Offices: New York, Atlanta, Detroit, Chicago, Dallas, San Francisco



Secret of this success is the fact that the GM "71E" engine is outperforming all others on the highway—producing the lowest-cost miles in history! Ask for "Jimmy" Diesel power when you are in the market for new trucks. And write for brochure describing new *lightweight* version of "6-71E" engine—weighs up to 690 lbs. less than competitors in the 210 h.p. range.

HERE'S HOW A "JIMMY" DIESEL FITS YOUR TRUCK

Load	Model	Horsepower
35-45,000 GCW	4-71E	140 gross HP @ 2100 RPM
40-60,000 GCW	4-71T*	171 gross HP @ 2300 RPM
50-76,800 GCW	6-71E	210 gross HP @ 2100 RPM
60,000 GCW and up	6-71T*	236 gross HP @ 2100 RPM

*GM Turbopower Diesels—higher power with little increase in size or weight.

Detroit 28, Michigan

Single Engines...30 to 364 H.P. • Multiple Units...Up to 893 H.P.

COMMERCIAL CAR JOURNAL, December, 1958



NOW—MORE THAN EVER—it pays to standardize on GM Diesel engines—available in 1800 applications of power equipment built by more than 250 manufacturers.

"With Stainless Steel tankers we can guarantee clean shipments," says Mr. Carl Wilkens, Manager, Catalin Corp. of America Plant, Calumet City, Illinois

"Our sales people insisted that we get Stainless Steel tankers," says Mr. Wilkens. "With Stainless, we can guarantee our customers that shipments will not be contaminated."

"We transport industrial resins, formaldehyde, and phenol in each of the five Stainless tankers. We don't worry about residue from one shipment spoiling the next because the Stainless is easy to clean between batches. It resists corrosion and keeps a smooth, dense

surface that can be thoroughly cleaned with detergents or caustic solutions. It takes only one hour to ready a Stainless tanker for a new shipment.

"Because the Stainless Steel is so resistant to corrosion, these tankers will last indefinitely. They're strong—need very little maintenance, and they always look good."

Eliminate corrosion and product contamination in your fleet. Make your next tanker Stainless Steel.

USS is a registered trademark

This Clean Bore tank of Type 316 Stainless Steel is made by the Heil Company, and has 3650 gallons capacity.



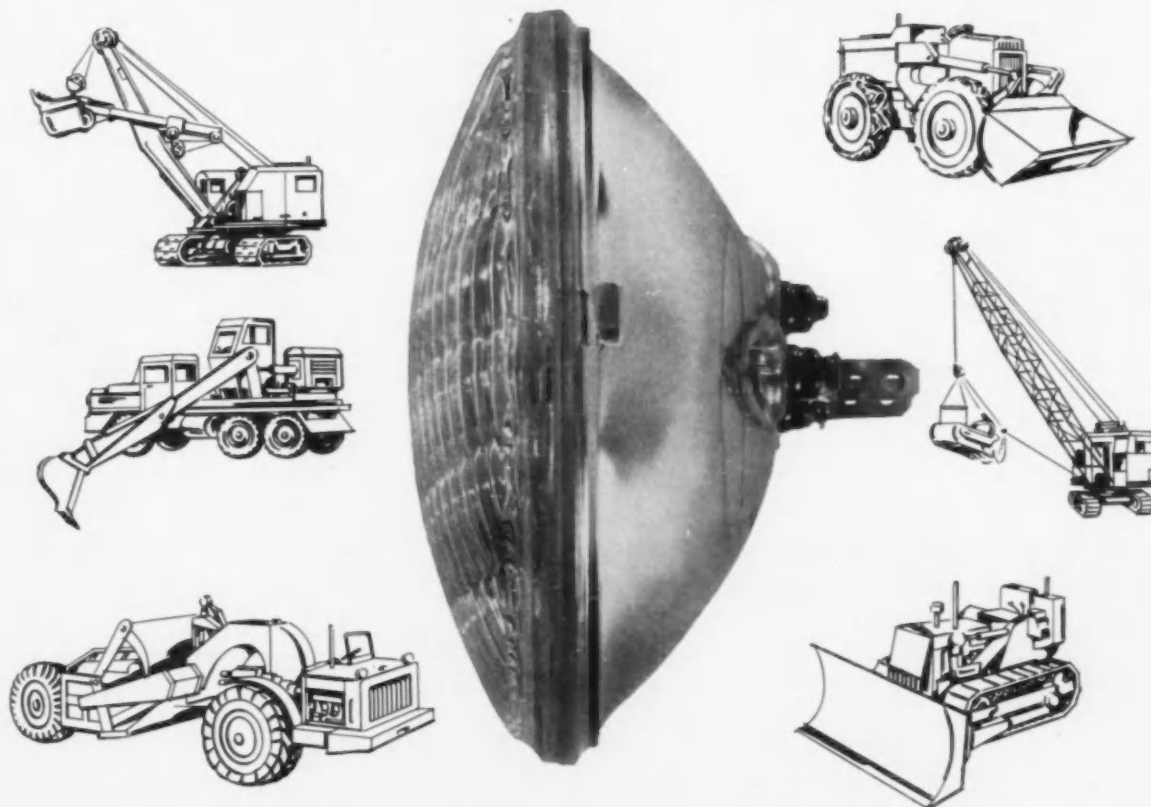
United States Steel Corporation—Pittsburgh
American Steel & Wire—Cleveland
National Tube—Pittsburgh
Columbia-Genova Steel—San Francisco
Tennessee Coal & Iron—Fairfield, Alabama
United States Steel Supply—Steel Service Centers
United States Steel Export Company



United States Steel

New G-E ALL-GLASS headlamps for earth moving equipment

Featuring "far-seeing" flat beam • 6-, 12-,
and 24-volt sizes • shielded, for dust and weather



Now! A complete line of *All-Weather* lamps for construction equipment

Specialized lighting for construction, mining and industrial equipment in a full range of sizes and styles is now available for the first time in General Electric's All-Glass C.I.M. line.

Just announced is this powerful headlamp for high speed, off-highway earth moving equipment such as scrapers. High candle-power and a flat, "far-seeing" beam greatly improve operators' night vision—especially in dust—by shielding upward stray light with a built-in shield over the filament.

For slower machines such as bulldozers, shovels and cranes, there are broad-beam floodlamps which cast smooth, even light over a wide working area.

Other units—like graders and rollers—call for combinations of headlamps for forward motion and downward-aimed floodlamps for watching the edge of a fill or for quick turns.

Whatever the job, a General Electric lamp does it best. Dust, dirt and moisture can't get into hermetically sealed All-Glass lamps to scatter and diffuse light. Sealed reflector never needs

cleaning. There's no inner bulb to blacken—the whole unit's a bulb! Special hard glass won't crack under heaviest rain or snow splattering. And they're built to take rough treatment day after day.

Your G-E supplier has the full line now. Discuss your special needs with him today or write: General Electric Co., Miniature Lamp Dept. CCJ-128, Nela Park, Cleveland 12, Ohio.

SPECIFICATIONS FOR G-E C. I. M. LAMPS

G-E No.	Circuit Volts	Watts	Bulb Dia.	Designed Life
HEADLAMPS				
4080	6	50	5 3/4"	500 hours
4480	12	60	5 3/4"	500 hours
4880	24	60	5 3/4"	500 hours
FLOODLAMPS—PAR 46 bulbs—2 contact lugs				
4078	6	50	5 3/4"	500 hours
4478	12	60	5 3/4"	500 hours
4578	24	60	5 3/4"	500 hours

GENERAL  ELECTRIC

FOR LOWER TON-MILE COSTS



Replace with **DEPENDABLE** **CONTINENTAL RED SEAL POWER**

In highway hauling, as elsewhere, profit margins continue to shrink, and wise choice of rolling stock becomes more essential than ever. That is why more and more truckers are replacing original equipment engines with rugged Continentals, engineered expressly for the job. Choose from the models listed below. See your distributor today.

RED SEAL TRANSPORTATION ENGINES

GASOLINE

Model	Cyl.	Displ.	Bare Engine H.P.
N4062	4	62	26.3 @ 3500 RPM
Y4069	4	69	28.0 @ 3400 RPM
Y4091	4	91	36.0 @ 3400 RPM
F4124	4	124	47.0 @ 3200 RPM
F4140	4	140	52.0 @ 3200 RPM
F4162	4	162	58.0 @ 3200 RPM
F6186	6	186	77.0 @ 3500 RPM
F6209	6	209	90.0 @ 3500 RPM
F6226	6	226	98.8 @ 3500 RPM
F6244	6	244	103.3 @ 3500 RPM
M6271	6	271	96.5 @ 3000 RPM
M6290	6	290	108.0 @ 3000 RPM
M6330	6	330	125.0 @ 3000 RPM
M6363	6	363	146.0 @ 3000 RPM
B6371	6	371	123.5 @ 3000 RPM
B6427	6	427	142.0 @ 3000 RPM
F06226	6	226	126.2 @ 3400 RPM
K6271	6	271	114.5 @ 3200 RPM
K6290	6	290	123.0 @ 3200 RPM

Model	Cyl.	Displ.	Bare Engine H.P.
K6330	6	330	147.0 @ 3200 RPM
K6363	6	363	162.0 @ 3200 RPM
T6371	6	371	143.8 @ 3000 RPM
T6427	6	427	170.0 @ 3000 RPM
U6501	6	501	186.0 @ 2600 RPM
R6513	6	513	192.2 @ 2800 RPM
R6572	6	572	220.0 @ 2800 RPM
R6602	6	602	232.0 @ 2800 RPM
S6749	6	749	250.0 @ 2800 RPM
S6820	6	820	300.0 @ 2800 RPM
V8603	8	603	260.0 @ 3200 RPM

CUSHIONED POWER DIESEL

Model	Cyl.	Displ.	Bare Engine H.P.
TD6427	6	427	146.5 @ 2600 RPM
RD6572	6	572	172.0 @ 2400 RPM
VD8603	8	603	200.0 @ 2800 RPM
SD6802	6	802	225.0 @ 2200 RPM

PARTS AND SERVICE EVERYWHERE

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MUSKEGON • MICHIGAN

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6210 CEDAR SPRINGS ROAD, DALLAS 9, TEXAS • 1252 OAKLEIGH DR., EAST POINT (ATLANTA) GA.



Floating Shoe Brake

Continued from Page 107

"After investigation, it was determined that a right angle actuation . . . would be best suited for this 15-in. brake. . . . A wedge device fitted with anti-friction rollers appeared to be the best means for spreading the shoes.

"The abutment load had to be removed from the actuation means. Therefore the brake was designed with an integral spider which takes the abutment load and . . . houses and supports the actuating means.

"The brake can be actuated either by air or hydraulic means. The hydraulic actuation is somewhat different than that presently used. . . . The hydraulic cylinders have been moved outside the brake, . . . eliminating the susceptibility of the brake fluid to boil. . . . The actuation means have been brought closer to the actual brake mounting to reduce space required for mounting the brake.

"We first ran a general performance test. These tests proved that the brake was higher in performance than any comparable brake we had used in the past. We then ran heat fade tests . . . that showed a far better resistance to fade than was formerly achieved.

"A program of mountain testing was undertaken. . . . Here it was again determined that the brake outperformed its predecessors to a degree that shows there is still some reserve to be used as vehicle performance is increased.

"We have shown an increase in brake performance, an increase in resistance to fade and an increase in wear life. It has also been possible to reduce the weight of the brake and fit it into spaces smaller than formerly used. It has also been found possible to operate this brake with far less volume of air than required for the former design."

END

Please Resume Reading Page 109



WEAVER HEAVY DUTY LIFTS

handle all wheelbase lengths
without loss of lifting capacity

You'll find that Weaver Lifts provide the answer for every weight and wheelbase requirement of every vehicle in your fleet. These lifts raise vehicles by the axles, thus giving mechanics free, unobstructed access to every under-chassis point. There are no rails in the way. Such working efficiency speeds shop production from 25% to 100%.

The Weaver Twin Post Lift and the Weaver Triple Post Lift (shown above in the same shop) are the *only* automotive type lifts that can handle various wheelbase lengths without loss of lifting capacity.

Heavy Duty Twin Post Lifts are regularly furnished with a wheelbase capacity of 102" mini-

mum and 204" maximum unless otherwise specified. Wheelbase extensions are available to take from 36" minimum up to 306" maximum — or longer if desired.

MODEL EC-105 TWIN POST LIFT is air-oil operated, and has a total capacity of 24,000 lbs.

MODEL EC-106 TWIN POST LIFT is electric operated, and has a total capacity of 36,000 lbs.

MODEL EC-106-3 TRIPLE POST LIFT is electric-oil operated, and has a total lifting capacity of 54,000 lbs.

For further details, see your Weaver jobber, or write us for Bulletin CCJ-457.



WEAVER MANUFACTURING COMPANY, SPRINGFIELD, ILL., U. S. A.

SERVICE SHOP EQUIPMENT

Complete line includes: Twin Post Lifts . . . Triple Post Lifts . . . Single Post Roll-on, Free-Wheel and Frame Type Lifts . . . Unit Lifts . . . Bumper Lift . . . Car Washers . . . Wheel Alignment Equipment . . . Headlight Testers . . . Brake Testers . . . Wheel Balancing Equipment . . . Jacks . . . Wheel Dollies . . . and Air Compressors.

Liquid-Cooled Disc Brake

Continued from Page 107

axle load. A retarder valve can be incorporated as part of the brake system. It is put in operation using a cab-mounted selector valve.

Other advantages cited by Wagner included . . .

- Continuous stops without brake fade.

- Uniform loading on lining surface.

- Lining area can be increased by adding more friction surfaces.

- Less down-shifting when running down hill.

- Same stopping ability with friction surfaces wet as when dry.

Wagner has been working on the new brake system for three years—including extensive road tests at its Jennerstown, Pa., research and development station. One test checked brake fade on a 60,000-lb GCW tractor-trailer combination.

This test, says Wagner, was made according to the procedure proposed by Society of Automotive Engineers last January. This calls for 20 successive brake snubbing applications between 40 to 20 mph at 10 feet-per-second-per-second deceleration.

Wagner reports the temperature of the disc brakes leveled off after the fourth application, remained constant for the balance of the 16 snubs. Recovery time required was practically nil since brake temperature dropped to that of the coolant almost as soon as the braking force was released. Further, brake line pressure demand remained constant throughout the test.

END

Please Resume Reading Page 109

Still

THE ORIGINAL ELECTRIC FUEL PUMP



THE LOWEST
PRICED
AND STILL
"THE OLD
RELIABLE"

More vehicles are operating on the highways with Autopulse than with all other electric fuel pumps combined!

WHY?

1. Autopulse has served haulers for more than 30 years.
2. No engine is too big—thanks to unique "series" installation which delivers up to 56 g.p.h. free flow.
3. Ends vapor lock. Pressure fully adjustable with automatic regulation.
4. "Pulls" or "pushes." Installs with simple bracket. Pump itself is electrically grounded.
5. Repairable in your own shop. Made in one model each of 6-volt and 12-volt.

Available on request
in any voltage

ELECTRIC



AUTOPULSE
DIVISION
WALBRO CORPORATION
CASS CITY, MICHIGAN



In the automotive service business... **THERE'S NO BUSINESS LIKE CHEVROLET BUSINESS!**

INDEPENDENT GARAGE OWNER:

"Much obliged. I can always depend on you to help me deliver my customers' cars on time."

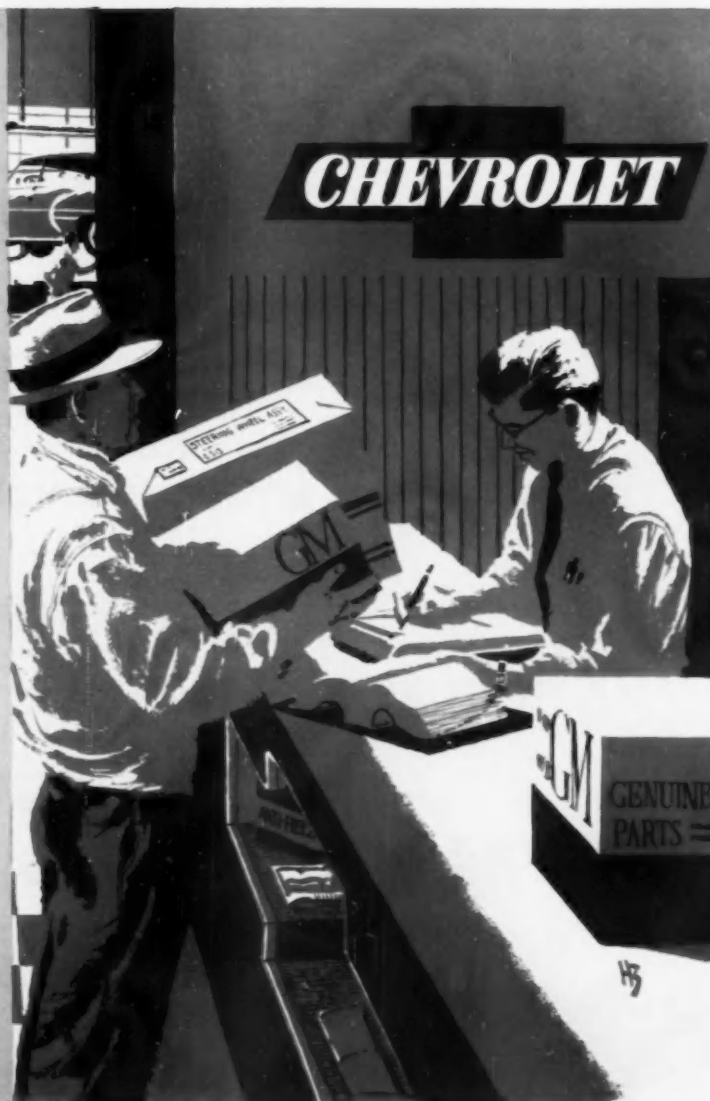
CHEVROLET PARTS MANAGER:

"Thanks. Prompt service is sure important. That's why we carry a big parts inventory to serve your needs."

Here's why there's no business like Chevrolet business:

1. Nearly 16,000,000 Chevrolet cars and trucks on the road . . . more than any other make.
2. Your Chevrolet dealer can be your one-stop source for genuine Chevrolet parts.
3. Genuine Chevrolet parts are built of the same quality of materials and to the same rigid engineering specifications as the originals.
4. Your Chevrolet dealer can offer profit building service aids to help you serve Chevrolet owners.

CHEVROLET DIVISION OF GENERAL MOTORS, DETROIT 2, MICHIGAN



MAKE YOUR CHEVROLET DEALER YOUR PARTNER IN SERVICE

... HE IS READY, WILLING AND ABLE TO SERVE YOU!

C. L. Patterson

Continued from Page 102

find him if you look. Then, tell him what you expect of him, give him the authority to get the job done, and hold him responsible for the results.

But, don't stop there.

See that each man continues to improve himself by increasing his

knowledge not only of his particular job but of other jobs. Do this by on-the-job training, through the medium of schools; by visits to plants of equipment manufacturers, and by visits to transit systems in other cities. We are never so old or so wise that we cannot learn know-how from others. This training should also include training courses in public and labor relations.

Establish apprenticeship courses for new employees. In every transit

organization I know top management complains about the calibre of many of the new men we are attracting. The increasing complexity of the equipment we are maintaining makes staff training more important than ever. The good maintenance man knows or finds out about all the training aids and facilities that are available and makes use of them.

In addition to having the right men to do the job today—you must plan on having the men who will be needed tomorrow. In theory at least, the organizations we work for will go on long after we are gone. Planning and training for replacements, especially for his key supervision, is the direct obligation of every maintenance man.

Third: You must plan your maintenance program to furnish the vehicles needed for service every day at lowest costs, with a minimum of spares and produced by a smooth flow of work. This program must be solidly based on the characteristics of the equipment, on transportation requirements both peak and off-peak, on soundly established standards of maintenance, and on available physical plant and facilities.

But, having established a plan and a program, you can't sit back and just let it roll on forever. Every maintenance operation should be studied periodically to take advantage of technological advances and to produce the same or better results by new methods and procedures. The process that can't be improved hasn't been developed yet—and never will be, as long as men have ingenuity and apply themselves to finding better ways to do a job.

Close cooperation with the operating department is a must in scheduling work, especially inspections, for the times when the peak load service is not required. Similarly, your manpower must be so scheduled that there is no time when your men do not have work for them to do. This may sound elementary, but unless watched, changing transportation requirements may result in men waiting around for work.

(TURN TO PAGE 139, PLEASE)

Increase GAS MILEAGE



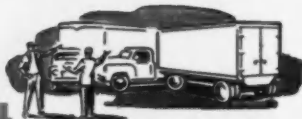
Reduce TRUCK MAINTENANCE



Lengthen TIRE LIFE



Guard against ACCIDENTS .



**by Equipping Your
Fleet with
HANDY
GOVERNORS**

7624



KING-SEELY CORPORATION

ANN ARBOR, MICHIGAN

WORLD'S LARGEST MANUFACTURERS OF AUTOMOTIVE GOVERNORS



Plymouth...the economy fleet car... introduces still greater savings for '59

Closely kept records for many kinds of businesses have long proved that Plymouth fleets cost less to operate and maintain...bring more at trade-in. Now, new '59 Plymouth breaks *all past economy records* to save you still more!

Gas mileage is UP, thanks to better fuel distribution, carburetion and more economical warm-up. Oil consumption is DOWN, thanks to new seals and baffles. Engines are beefed up in every vital part to stay out of the shop. Routine maintenance operations are faster and easier. Famed

Torsion-Aire Ride is still standard, at not a penny extra cost.

And new Plymouth beauty will make your fleet the proudest on the road...spark morale for drivers. *If you operate rental cars, you'll find that these new money-savers are extra money-makers as well...in terrific demand by the car-renting public...far easier to service.*

For '59, if it's new, Plymouth's got it...and that means new economy, too. If ever a car was made for fleet operators, this is it. Get the dollar-saving story today!

Today's best buy...tomorrow's best trade...

Plymouth

SPECIAL HEAVY DUTY TRUCK PISTONS

HI-RESIST BONDED TOP GROOVE PROTECTOR

STEEL CAST-IN TOP GROOVE PROTECTOR



CONSTANT CLEARANCE FEATURE
CONTROLS EXPANSION AND PREVENTS COLLAPSE

Who but McQuay-Norris furnishes both?

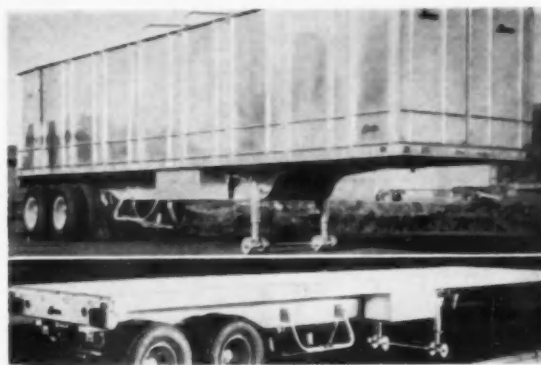
See your
McQuay-Norris Wholesaler
for quick service.



McQUAY-NORRIS Manufacturing Co., St. Louis • Toronto

Platform or Open Top Trailer

A lightweight 35 ft trailer weighing 7,950 lbs converts from a platform to open top in 15 minutes, says the maker Brown Trailers, Inc. of Spokane, Wash. Aluminum and steel alloys give the trailer its light weight. Aluminum side panels and tarp bows are used to make the open top conversion. The trailer also comes in a 40 ft model weighing 9,500 lbs with side panels and tarp bows.



C. L. Patterson

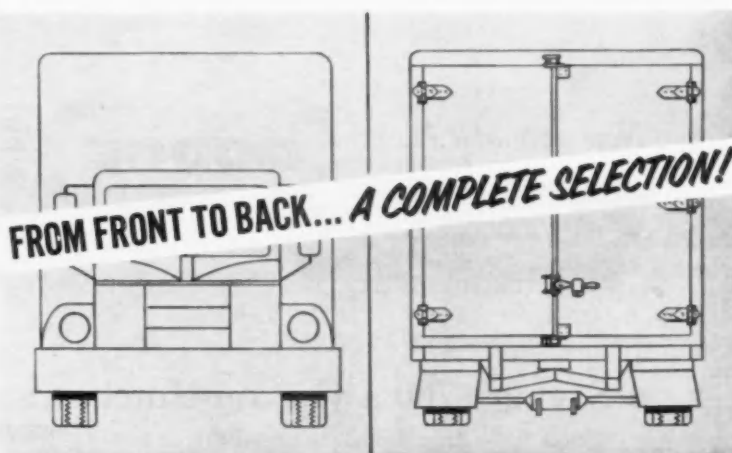
Continued from Page 136

One of the most important functions of your department is the judicious use of materials. That phase of your work brings together your department and the purchases and stores department. Good judgment in determining when to use new materials and when to repair old parts, and careful control of salvage materials is essential in keeping costs down. You must also work with your purchasing agent to make sure that new materials that get on the market are tested and put to use if they will improve your maintenance.

Another important phase of your work is developing adequate and accurate records to obtain useful and correct information on maintenance costs, productivity of labor and performance of equipment and component parts. Such records are essential in developing manpower requirements, material requirements, production standards and determining the economical life of the equipment. Usually these records are furnished by budgeting and accounting departments, but if they are not available you should have enough interest in your jobs to work up and maintain the records yourself. The records will indicate to you and to top management whether you are producing the desired results.

Top management looks to you and your engineers to develop and produce in cooperation with manufacturers the most efficient, safest, comfortable and eye-appealing ve-

(TURN TO PAGE 142, PLEASE)



HANSEN *COMMERCIAL BODY* HARDWARE



Hinges, locks, handles, window regulators and other accessories . . . just about everything you need to complete a fine body building job, you'll find in the Hansen Commercial Body Hardware line. Send for complete literature today!

HANSEN... The Hardware
For Hard Wear

Representatives in
All Principal Cities

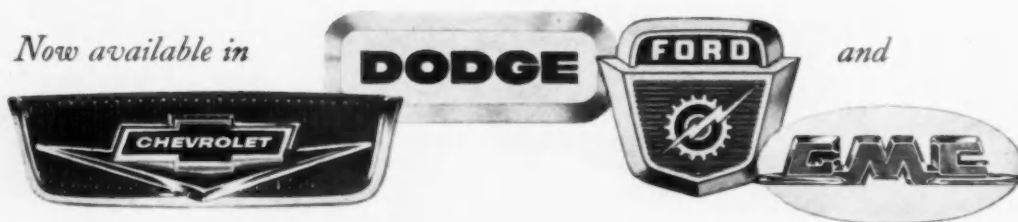


A. L. HANSEN MFG. CO.

5037 Ravenswood Avenue • Chicago 40, Illinois

Here's how the "Auto can save truckers

Now available in



- Saving \$700 a year on clutches, axles . . .

NEW JERSEY SAND HAULER

-
- Saving 50% on engine repairs . . .

ROCKY MOUNTAIN TRUCKER

-
- Saving 75% on brake maintenance . . .

UTAH ORE HAULER

-
- Saving 1 trip out of every 5 . . .

MIDWEST CAR HAULER

-
- Saving \$250 a year on clutches, brakes . . .

CHICAGO FLEET OPERATOR

Allison

matic Brain"

a  or more a mile

PENNY-A-MILE SAVINGS can be *automatic*—when your trucks have the Allison Transmission with the "Automatic Brain."

For the "brain" selects the right gear for every combination of load, grade and speed every mile of the way.

That ends costly engine lugging, shock-load damage to chassis and drive-line components, engine-disconnect clutch repairs and replacements.

Result: engine life as much as 33 $\frac{1}{3}$ % longer—average trip-time is reduced 18%.

And that's just the start of the savings you'll make with the Allison Automatic.

For there's a built-in retarder that saves service brakes from everything but full stops—gives you 50% longer break-lining life plus better safety records.

There's a torque converter that transmits power to tire treads with infinite smoothness for better tire mileage.

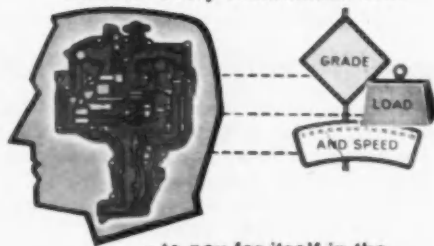
There's a direct-drive lockup in every forward gear for fuel economy.

And one of the best things about this Allison Automatic is that it cuts your driver recruitment and training problems.

Add it all up and it's easy to see how you can save at least a penny a mile—probably more—in your operation.

Interested? Check with your Chevrolet, Dodge, Ford or GMC truck dealer—or write Allison for full information.

The Allison "Automatic Brain" gears your truck for every combination of...

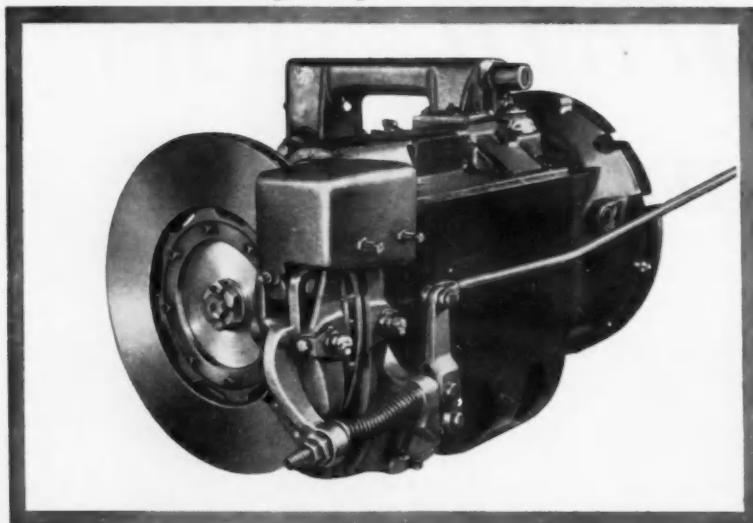


—to pay for itself in the first 12 months of operation

ALLISON DIVISION OF GENERAL MOTORS, Indianapolis 6, Indiana

 **FULLY AUTOMATIC TRUCK** *Transmissions*

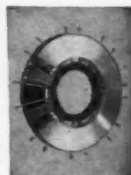
You Get Positive Protection Against Runaway or Parking Accidents When You Specify TRU-STOP Brakes



TRU-STOP brakes operate directly on the drive shaft. This means that they are not only excellent parking brakes, but dependable emergency service brakes as well. There's no dangerous self-energizing. TRU-STOP brakes have the surplus capacity for repeated use as an auxiliary to service brakes.

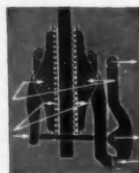
100% Ventilation Minimizes Fading

Brake efficiency depends on ability to dissipate heat rapidly and so prevent fading. TRU-STOP brakes are 100% ventilated. Discs are exposed to air even while braking. The TRU-STOP ventilation system circulates air between the disc plates.



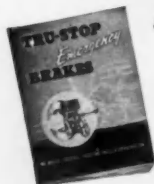
Longer Life with Uniform Brake Pressure

The discs of TRU-STOP brakes are squeezed between the flat surfaces of the shoes. The brake lever operates both the front and rear lever arms simultaneously, and pressure is exerted on the center of each shoe. This puts the entire lining surface in contact, provides for even wear. TRU-STOP brake linings are easy to replace.



FOR POSITIVE PROTECTION...

Specify **TRU-STOP BRAKES** on
ANY Heavy-Duty Equipment
that Requires Braking



WRITE for Catalogs DH-33 and DH-530

Automotive and Aircraft Division
AMERICAN CHAIN & CABLE



601 Stephenson Bldg., Detroit 2
2216 South Garfield Ave., Los Angeles 22 • 929 Connecticut Ave., Bridgeport 2, Conn.

C. L. Patterson

Continued from Page 139

hicle at the lowest possible cost. The vehicle must be designed with the thought of easy maintenance, and each component part must be engineered and located to require the least effort in time and labor to replace or repair.

Top management expects

maintenance men to spend some time riding the vehicles which it is their responsibility to maintain. Many problems of maintenance have been and can be solved by periodic riding of vehicles and thus getting first hand knowledge of their performance on the line.

One essential characteristic of a good supervisor in maintenance as well as everywhere else is his ability to handle the employees under his supervision. It is not enough to know how the work must be done. The good supervisor also knows how to get the men under him to do it economically and efficiently. There are, unfortunately, some who are prone to indulge in sharp practices in dealing with subordinates. But I say to you that dealing with men fairly and squarely will get the job done willingly by those under you. Now I don't mean that the men should run you, for strict discipline must be maintained if you are to get desired results.

That's quite a list

of the things that top management expects from the maintenance man. Of course, as some of the other speakers will tell you this is not altogether a one-way proposition.

Top management has its duties and obligations too. It must consult with and keep maintenance men informed about its policies and the reasons it sets them. Top management must set the pattern for the entire organization, and do business in such a way that what it expects from the maintenance man will come easily and naturally.

END

Please Resume Reading Page 103

resists
impact



These horns are built to stand sudden shock. And Parish Pressed Steel Division of Dana Corporation, a leading manufacturer of automotive chassis and frames, uses A.W. Dynalloy steel for the same reason...resists impact!

There are other reasons, of course. A.W. Dynalloy is

- ... easy to form
- ... easy to weld
- ... resistant to corrosion

As with Parish Pressed Steel, A.W. Dynalloy can help you get more value per dollar spent for your product. Send for our A.W. Dynalloy booklet which gives complete information. Write Marketing Division, Dept. DY-E91.



A.W. DYNALLOY

ALAN WOOD STEEL COMPANY

steelmasters for more than a century and a quarter CONSHOHOCKEN, PA.

DISTRICT OFFICES AND REPRESENTATIVES: Philadelphia • New York • Los Angeles • Atlanta • Boston • Buffalo • Cincinnati • Cleveland • Detroit • Houston • Pittsburgh • Richmond • St. Paul • San Francisco • Seattle • Montreal & Toronto, Canada—A.C. Leslie & Co., Limited

O. Roy Chalk

Continued from Page 103

impossible not to take into consideration the problem of the other departments and to give them the sympathetic attention they might not otherwise get. Likewise, it is virtually impossible for the maintenance man to fail to derive helpful suggestions from the other de-

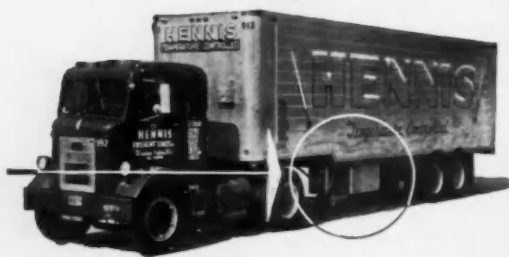
partments. In fact, I charge him with the responsibility of stimulating and provoking new ideas.

Top management has

a right to expect that maintenance activities, as important as they are, will be carried on without the maintenance man becoming so wrapped up in his own problems and prerogatives that the mistaken notion strikes him that the company as a whole is operating for the benefit of the Mechanical Dept.

MORE THAN 2,000 STATIONS TO SERVICE WISCONSIN ENGINES

POWERING REEFERS
and REFRIGERATION UNITS



• The heavy-duty features of Wisconsin Engines assure dependability that's unmatched in the 3 to 56 hp. field. Even so, it's comforting to know, too, that there's a Wisconsin Engine service station just a few miles down the highway, in practically every region in the country. SPECIFY WISCONSIN ENGINES AND YOU GET DOUBLE POWER PROTECTION... unmatched performance and more than adequate service facilities.

Write for bulletin S-198 pinpointing location of service stations. Keep one in every truck. Tell us how many you need.



WISCONSIN MOTOR CORPORATION

World's Largest Builders of Heavy-Duty Air-Cooled Engines
MILWAUKEE 46, WISCONSIN

Where in the entire management staff does practical imagination have a more fertile field than in the Mechanical Dept.? Such imagination manifests itself in many ways. The organization of the maintenance staff, the selection of maintenance materials, the arrangement of the maintenance facilities, and the determining of procedures all demand practical imagination. Nor is it sufficient to merely set up and carry on mechanical department functions in this manner. True imagination calls for constant experiment and reappraisal for maximum efficiency, economy, safety, and teamwork.

Imaginative leadership

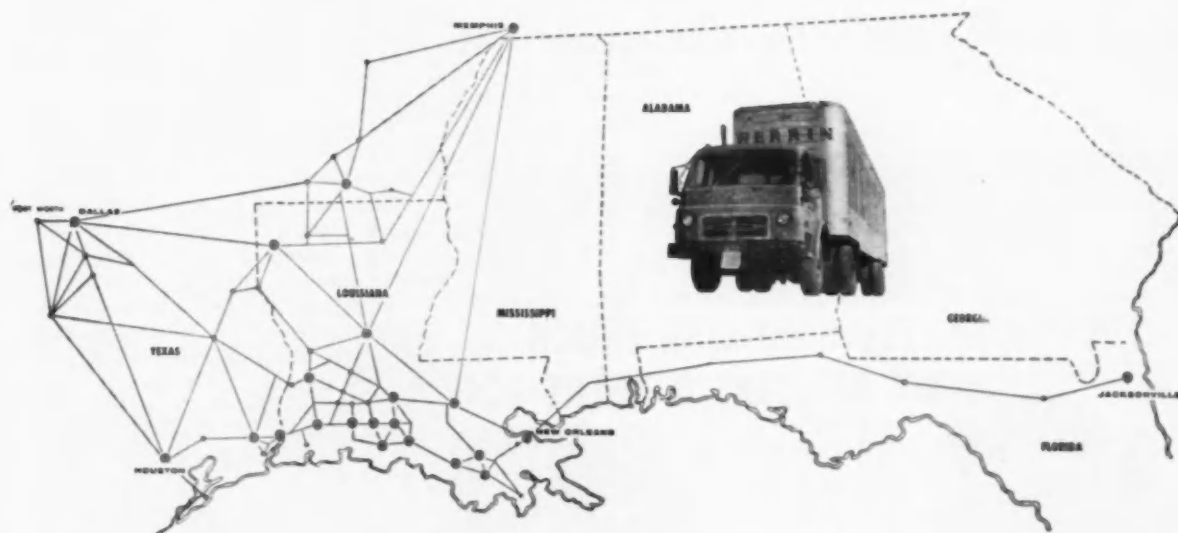
by mechanical men is felt throughout the department. Experience has shown that many excellent suggestions toward the improvement of maintenance in some form or other have come from lower echelon personnel so inspired.

There are many new materials on the market today and others are appearing with almost confusing rapidity. Many of these can be used to package our services more attractively and at the same time reduce maintenance costs. Just as the trend in modern over-the-road type buses has all but eliminated exterior painting, so have plastic, stainless steel, Mylar laminates and decorative aluminum given us a promise of attractive low maintenance interiors. A careful eye to these developments is certainly a challenge to the maintenance man who is called upon to make his recommendations when specifications for new vehicles are written. It goes without saying that the manufacturers appreciate the ideas of forward-thinking maintenance men.

I am convinced from

our experience that stimulation of ideas for the maintenance man can well come from outside the transit industry. Certainly the maintenance man who does not take the opportunity to keep up with mechanical and automotive design in general, as well as the sales appeal so thoroughly developed by the aircraft industry and others, is missing the opportunity to tickle his (TURN TO PAGE 146, PLEASE)

"Hot highways made blowouts a real problem for us until..."



we switched to nylon cord tires"

REPORTS J. R. BRODNAX, JR., TIRE MANAGER, HERRIN TRANSPORTATION CO., HOUSTON, TEXAS



MR. BRODNAX puts nylon cord tires on all of his company's trucks, finds that nylon results in the lowest tire costs yet.

"On roads where *normal* temperatures reach 105 degrees, we were having too many road delays from blowouts. We found that nylon resists the blistering highway heat that kills tires made with ordinary tire cord. In our trucking operation, with 700 vehicles, that kind of protection means *lower operating costs*. Nylon gives tires the toughness that permits thousands of safe, extra miles, many more retreads, and practically no blowouts due to tire cord failure. We put nylons on all our trucks and our mileage records have proved to us without a doubt that nylon means many more miles per tire, better cost per mile."

Prove to yourself that nylon cord tires cut tire costs and increase average tire mileage. Nylon cord tires are made by all major tire makers (Du Pont makes only the tough nylon yarn that gives strength to the tire).



BETTER THINGS FOR BETTER LIVING... THROUGH CHEMISTRY

THE SAFEST, STRONGEST TIRES ARE MADE WITH **NYLON**

O. Roy Chalk

Continued from Page 144

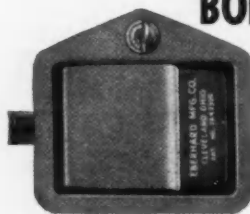
imagination for the benefit of management as a whole.

New ideas are fine if somebody does something about them, but how many times have we all heard good ideas expressed and wondered later whatever happened to them. Perhaps no one ever started to do

anything about them, or if they did, perhaps they were allowed to stagnate for the want of aggressive interest and follow through.

Projects which are carried out by the maintenance man are usually those which involve operational savings to the company or glamorizing of the equipment for better public acceptance. No matter what the purpose, if an idea is worth pursuing, it is certainly worth completing.

OBJECTIONS TO PROJECTIONS! are Prevalent with TRUCK BODY BUILDERS & USERS TOO



Pat. No. 2,642,300

No. 4879 Slam action lock. Single point engagement. Easily operated by pulling handle outward. Simple installation. For right or left-hand doors.



pat. applied for

No. 4881 Same as No. 4879 but with key locking feature. In pairs, right or left. Right shown here.

THAT'S why EBERHARD'S PADDLE HANDLE LINE of DOOR LOCKS INSTALLS "FLUSH WITH THE SURFACE"



No. 4885
Three Point Key
Locking Right and
Left Hand
(Illustration shows
right hand)

Neatly styled and functionally designed, Eberhard Paddle Handle Door Locks have received universal acceptance by truck body builders and fleet maintenance shops. Now available in 15 models: including 1, 2 and 3 point, end or side latching action. There isn't a lock made that's easier to operate. Installed with screws, bolts or by spot welding. Write for literature on our Paddle Handle Lock line.



No. 4886
Two Point (Non-
Key Locking)

EBERHARD MANUFACTURING COMPANY
Everts Ave. • Cleveland 4, Ohio
DIVISION OF THE EASTERN MALLEABLE IRON COMPANY

LONGRUN

TRUCK BODY
HARDWARE BY
EBERHARD
THE MOST COMPLETE LINE AVAILABLE

Maintenance men, among others, would do well to review abandoned projects, particularly those set aside as impractical under the original circumstances. New personnel and fresh thinking above and below the maintenance man, changes in available equipment, varying characteristics of the service, and new personnel on regulatory bodies can well turn the rejected ideas of yesterday into money-making realities of today.

Coming back to my

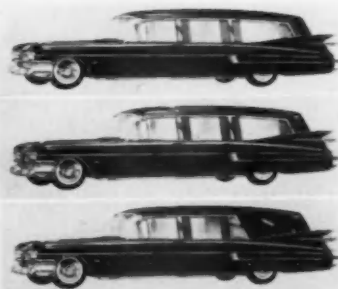
point of following through, you can readily see what a help it is to top management to receive completed staff work. Reports without specific recommendations, the failure to conclude an assignment with a positive "yes" or "no" answer merely creates unnecessary work at the top management level and may result in other than the best course of action.

My point is that top management has the right to assume that the maintenance man will be alert to opportunity, progressive in his thinking and definite in his final recommendations.

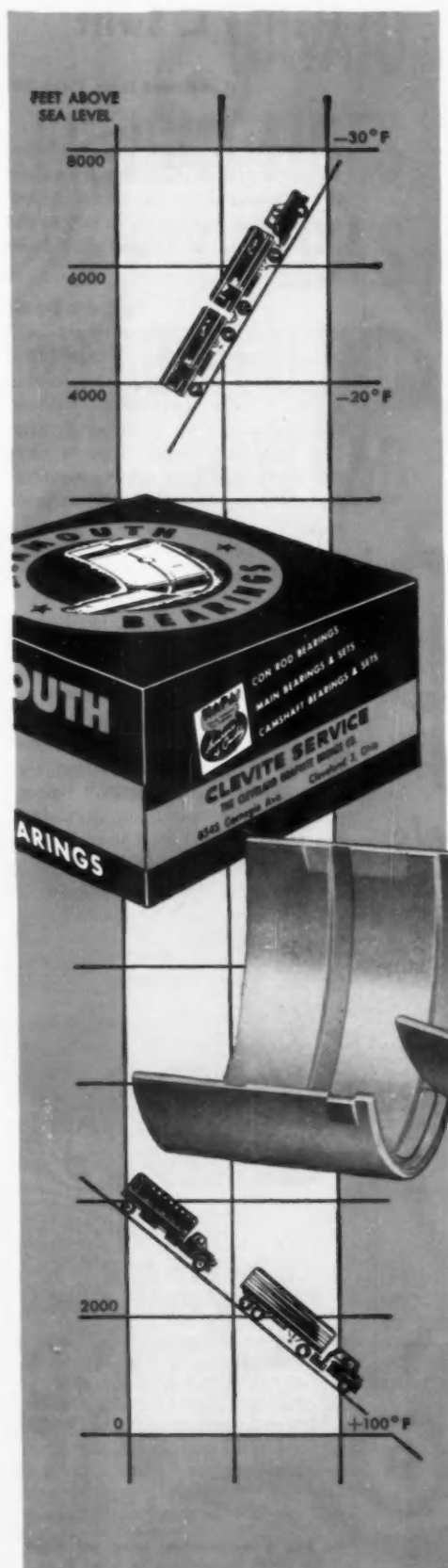
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Please Resume Reading Page 103

Deluxe Professional Cars



Here are three of 31 models offered by the Hess & Eisenhardt Co., Cincinnati, Ohio, for '59. The Cadillac chassis and the S & S body are "monotized" into one complete unit. Among the new features are stainless steel upper doors monotized with lower doors and a new rear body design that practically conceals the rear door. These professional cars are available with limousine, ambulance or funeral coach bodies.



Regardless of operating conditions . . .

Here's how you profit with Clevite 77* bearings

Special high-duty design for:

- ... greatly increased mileage per bearing set
- ... improved engine performance
- ... reduced "down time"
- ... lower maintenance costs

The complete line of Monmouth Clevite 77 replacement engine bearings is available from your nearest N.A.P.A. jobber. Give him a call today!



*Your NAPA Jobber
is a Good Man to Know!*

*The words Monmouth, Clevite and Micro are registered trade marks of Clevite Corporation

Monmouth

ENGINE BEARINGS

CLEVITE SERVICE

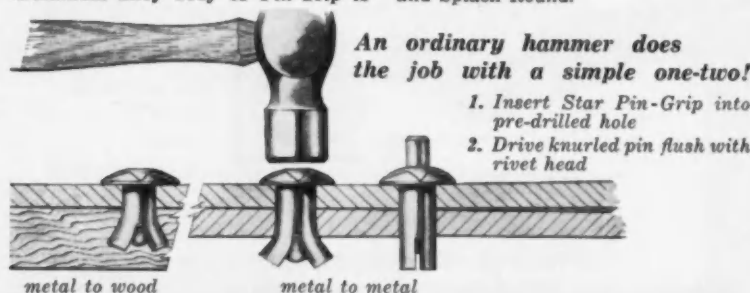
The Cleveland Graphite Bronze Co.
Division of Clevite Corporation
Cleveland 3, Ohio



**for high speed riveting of metal panels
to truck body with an ordinary hammer**

Star Pin-Grip hammer-drive blind rivet eliminates the need for explosives, special tools or special skills. Pin-Grip does the job of a conventional rivet—faster, easier, safer, with real economies in time and labor. Aluminum alloy body of Pin-Grip is

assembled with a stainless steel, knurled drive pin (or on special order with aluminum drive pin). Wide range of Pin-Grip sizes available with these head styles: Universal, 100° Counter-sunk, Full Brazier, Panel, Splash Flat and Splash Round.



STAR EXPANSION
Mountainville, New York

Please send illustrated Pin-Grip Catalog

Name _____

Company _____

Address _____

City _____ Zone _____ State _____ CJ-12

Harley L. Swift

Continued from Page 103

Just as he never gets all the riders back after a strike, I never can get the buses back in the same or better shape than they were before the boss went on strike and shut down the shop.

Boy, do I boil sometimes when out of the blue I get an order to put certain buses on a certain route, to meet a certain schedule, or something—without the courtesy of an explanation why. If I had been asked, I could have told them that that vehicle wouldn't do or, if they insisted—"What price glory?"

I have saved the traveling public a lot of road delays and both the schedule department and the operating division a lot of headaches. And I'm just as interested in on-time performance and happy customers as anybody on the property. A bus is just a bus in the eyes of most people—but, just like some kids can play baseball better and some kids can play football better, and some turn out to be musicians and others turn out to be plumbers, so are some buses better on one line than on another. And just as a coach knows his players and wouldn't put a guard in to play end except in an emergency, I know my buses.

Another thing, I wish the old man would call me in and let me in at the start on some of these changes—yes, on proposed changes, before he gets in too deep.

(TURN TO PAGE 152, PLEASE)



"He has a mechanical mind all right, but he keeps forgetting to wind it up."

NAVAJO FREIGHT LINES CARRIES 46,800-POUND PAYLOAD



WITH NEW "UTILITY" DROMEDARY AND VAN



ALCOA ALUMINUM MAKES THE BIG DIFFERENCE

Utility Trailer Manufacturing Company was the builder of this profit-maker for Navajo Freight Lines. The 40-ft van and 11½-ft drom yield a whopping total of 51½ feet of loading space. And the extruded aluminum floor, plus aluminum liner sheet interior and corrugated aluminum exterior, keeps the total weight of tractor, drom and van to 29,960 pounds.

P. M. Heinmiller, vice president in

charge of manufacturing for "Utility," says, "We believe that aluminum construction, plus unique design features available only in "Utility" equipment, makes this unit the most efficient of its type on the road today. And we are grateful to Alcoa for the frequent and effective assistance which they have always made available to us as we introduced aluminum construction in our units."

You, too, can enjoy additional payload profits and minimum maintenance. Cost-conscious truckers everywhere have found that aluminum cuts operating

costs and stays on the road every day. For authentic case-history reports and additional facts, write for your free copy of *The Road to Payload Profits*. Aluminum Company of America, 1876-M Alcoa Building, Pittsburgh 19, Pennsylvania.

Your Guide to the Best in Aluminum Value



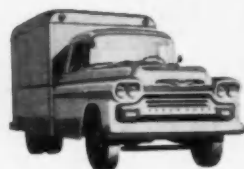
ALCOA THEATRE
Fine Entertainment, Alternate Monday Evenings



Autocar



BROCKWAY
Huskie



CHEVROLET



DIAMOND T



DIVCO



DODGE TRUCKS



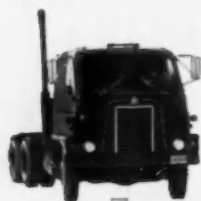
Ford



GMC

Leece-Neville Alternator-Generator Systems are available as factory-installed special original equipment through these manufacturers.

Specify Leece-Neville Alternator-Generators on your new trucks.



H



KAISER
WILLYS
MOTORS



KENWORTH



Mack
TRUCKS



WARREN HERRINGTON
Safe-Way



OSHKOSH
WHEEL
DRIVE
TRUCKS



Peterbilt



REO



3



WALTER
TRUCKS
1-2-3
100% TRACTION

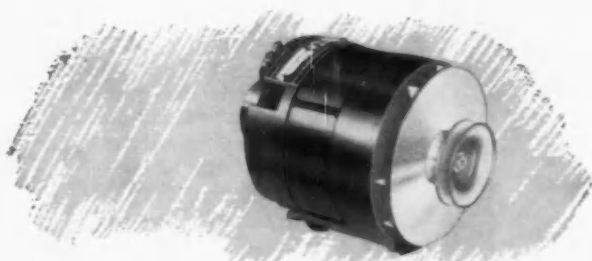


White

HOW LEECE-NEVILLE ALTERNATOR-GENERATORS END BATTERY AND ELECTRICAL BREAKDOWNS

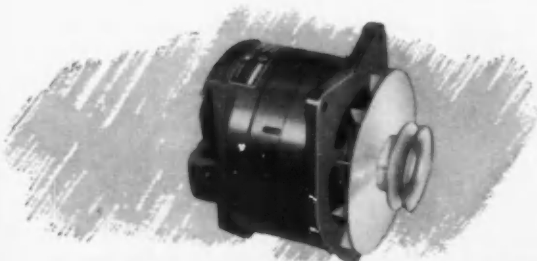
For several years one of the most common sources of road failure has been the electrical system—batteries, generators, regulators, lights and the like. Since 1946, thousands of truckers have discovered that one bit of preventive maintenance practically eliminates this type of road failure. They installed Leece-Neville Alternator-Generator Systems!

Regardless of the type of service—stop-start, short run, or over-the-road—Leece-Neville Alternator-Generators outperform and outlast conventional DC generators. L-N alternators produce enough current, *with the engine idling*, to handle normal electrical loads and keep the battery charged. High speed operation can't harm the L-N alternator. See other advantages listed below.



Heavy Duty L-N Alternator System

Recommended for heavy duty and highway service. Capacities: 6 volts, 95 amps; 12 volts, 60 amps (higher capacities available). Installed with companion regulator and rectifier.



Standard L-N Alternator-Generator

Recommended for light "in town" service. Capacities: 6 volts, 60 amps; 12 volts, 50 amps (higher capacity systems available). Installed with companion regulator and rectifier. Costs no more than most conventional heavy-duty DC generators.

HERE'S HOW TO GET ALL THE FACTS!

Find out now how Leece-Neville Alternator-Generators can drastically reduce down-time and maintenance expense caused by electrical system failures. Contact your local truck dealer or L-N distributor. Or merely fill in and mail the coupon at the right. No obligation, of course.

The L-N Alternator-Generator is a cost-cutting workhorse!

- Produces enough current with engine idling to carry normal electrical loads
- Ample low-speed output . . . safe high-speed output . . . long life
- Improves performance and cuts maintenance costs for entire electrical system
- Permits full use of all accessories at all speeds
- Assures easy starting even in the most severe weather.



Specify Leece-Neville Alternator-Generators as factory-installed original equipment on your new trucks.

TO: THE LEECE-NEVILLE COMPANY
DEPT. FC-2—CLEVELAND 3, OHIO

☐ Please send me literature on your L-N Alternator-Generator Systems.

☐ Have your salesman call on me.

Type of Service: ☐ Stop-Start ☐ Short Run ☐ Over-the-Road
☐ Off-the-Road

NAME _____ TITLE _____

COMPANY _____

ADDRESS _____

CITY _____ STATE _____

Harley L. Swift

Continued from Page 148

Maybe I'm not up on all the financial quirks and legal angles, but I do keep abreast of what is being built and on what may be available when the boss is ready to buy. I have friends on other properties, who will tell me the truth about their equipment troubles.

Usually I'm called in and told we're going to buy buses or sometimes that an order has been given for buses—and to get set. I wish the old man had to talk to these bus peddlers, seat specialists, etc., and try to talk them into supplying something better, or in addition to the junk that comes standard on that particular make of vehicle after they are sure of the order. The daggone bus wouldn't have cost him a cent more if he had called me in at the beginning and let me

specify items that in the long run will save a lot of maintenance and service headaches.

For crying out loud, the boss will pay some guy or dame—I don't know how much—to select colors to paint the bus or to pretty it up inside with pastel colors—and then take a shine to some color I'm going to have a "helluva" time matching in when I have to replace a panel and which will chalk out in the weather. Maybe I'm not an artist, but I've learned the hard way about paints and upholstery and what it costs to repaint, repair, and how often. What good is all my experience if top-side doesn't let me use it?

Sure, he's the boss, but gosh wouldn't it be nice if just once he asked me—"What do you think about this, Mike?" Hell, I'm on the team and I want to see the team win, but I don't like to be shoved off the end of the bench all the time, just because I'm a 60 minute guard with my pants all dirty and my shirt torn, and not a flashy triple threat fullback, who is in and out of the game a couple of times a quarter.

Just because the maintenance department always has been considered a non-revenue-producing department, an expense group, is no reason why we shouldn't share in the conferences on management and operating problems. If the problems were shared with us, maybe we could show top-side how to cut expenses in the shops by eliminating wasteful practices on the road—and help the schedule and operating departments get more out of less equipment.

Boss, I'm for you; I like working for you, but I'd a hell-of-a-sight rather work with you.

END

Please Resume Reading Page 106

CCJ

GYPSY TRUCKER: "HEY, GAL, C'MERE. I HAVEN'T FOUND THE SLIGHTEST SLIVER OF CHICKEN IN THIS CHICKEN SOUP."

DINER WAITRESS: "WELL, LET ME TELL YOU SOMETHIN', BIG DADDY, YOU WON'T FIND ANY HORSE IN THE HORSE-RADISH, EITHER."

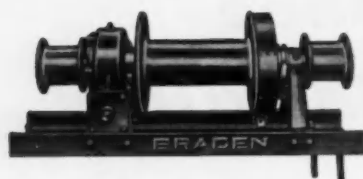
BRADEN

...YOUR BEST WINCH BUY

Check BRADEN features before you buy any winch. You'll soon learn why BRADEN is your best winch buy.

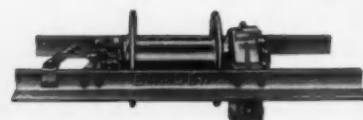
Cable drum shaft is made of special heat treated, highly ground and polished alloy steel. Gear housings are ribbed for extra strength without excessive weight. The Braden-perfected Oil Cooled, Fully Adjustable, Automatic Safety Brake is one of the greatest advances in winch design.

See your nearest Braden dealer for all the great features found only in BRADEN winches.



M6-15B

Capacity: 12,000 pounds. Available with either one or two speed forward and one or two speed reverse power drives.



MU5-12 and MGU5-12

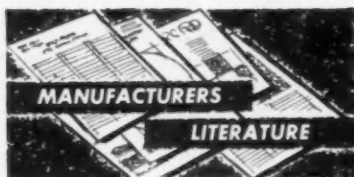
Capacities: 10,000 and 12,000 pounds. A heavier series of underslung winches with lower gear ratios for higher speeds.

Write for Catalog

BRADEN WINCH COMPANY
P. O. Box 547, Broken Arrow, Oklahoma



In service around the world



Bus air conditioning equipment is described in a brochure from Tropic-Aire. Descriptions and illustrations of units for intercity buses are shown for both gasoline and diesel models. Bus operators should write to Tropic-Aire Div., McGraw-Edison Co., 5201 W. 65th St., Chicago 38, Ill., for a free copy.

Air compressors and paint spray equipment are described in an illustrated 24-page catalog from Campbell-Hausfeld Co. Shown are stationary and portable compressors and two new series of paint spray guns. Get a copy of Catalog No. Ch-100 by writing the Campbell-Hausfeld Co., Harrison, Ohio.

Fastener bulletin shows the entire line of Chandler Products fasteners. Shown are standard bolts, Hi Tensile & Hi Shear bolts, cap screws and self-locking screws. For a free copy of the bulletin write Chandler Products Corp., 1493 Chardon Rd., Cleveland 17, Ohio.

Plastic paste for body repairs is described in new literature from Baird Dynamic Corp., 1700 Stratford Ave., Stratford, Conn. In it is information and advantages found in the Fillerite System of body repairs. Write for a free copy.

Reo truck model folder shows the entire Reo line. Included in the 28-page color folder are six-wheelers and tilt-cabs as well as conventional gasoline, LP Gas and diesel models. Free copies are available from Reo truck distributors or by writing Reo Div., White Motor Co., Lansing, Mich.

Quick-reference fuel pump catalog covers the Capac line of fuel pumps, parts and repair kits. Reference chart makes model identification quick and easy. Write the Wells Mfg. Corp., Fond du Lac, Wis., for a free copy.

Brake specification catalog from Raybestos Div., Raybestos-Manhattan, Inc., P. O. Box 1021, Bridgeport 2, Conn., has passenger car, light and medium truck specs for brake lining and lined brake shoe sets. See your Raybestos jobber or write the company for details.



INNOVATION IN TRUCK HARDWARE SPECIFYING AND BUYING!

New Cleveland mobile demonstrator-trailer lets you examine quality of truck hardware before you specify

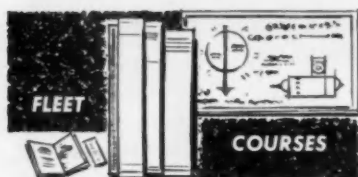
Now you can see for yourself why a growing number of leading fleet operators and body builders specify and buy Cleveland FORGED hardware for their trucks, buses, trailers and commercial units.

Cleveland's new trailer-demonstrator brings the hardware right to your door . . . gives you an "on-the-spot" opportunity to make comparisons . . . shows you how Cleveland Hardware can help you eliminate door side shift, water damage and cargo losses . . . how many fleets cut hardware inventories with Cleveland's universal "left-and-right" locks.

If you wish to see the complete line of Cleveland FORGED hardware when the mobile demonstrator visits your region, drop us a line. Write to H. K. Porter Company, Inc., Forge and Fittings Division, Cleveland Forge Works, 3270 East 79 Street, Cleveland 4, Ohio.

H. K. PORTER COMPANY, INC.

FORGE AND FITTINGS DIVISION
CLEVELAND FORGE WORKS



HERE is an up-to-date calendar of fleet training courses for 1959. For complete addresses to write to for further information concerning the courses listed, see the Fleet Course Directory beginning on page 118 of the November issue.

Driver Trainer

Pennsylvania State University—
Sept. 28-Oct. 2.

Fleet Maintenance

University of California—March 11-13 (Los Angeles), 18-20 (Berkeley). (Both are conferences.)

University of Washington—March 23-25 (Conference).

Pennsylvania State University—
Apr. 27-May 1.

Fleet Operation

Fleet Operation courses usually meet one night a week for 10 or 12 weeks. Starting date, where known, is indicated below. City shown in parentheses is where course will be held.

Syracuse University (Syracuse, N. Y.)—Feb. 11.

Northwestern University (Evanston, Ill.)—Feb. 23.

West Virginia State College (Institute, W. Va.)—February.

Fleet Supervisor

University of Alabama—Jan. 19-23.

University of Utah—Feb. 9-13.

University of California (Los Angeles)—March 9-10 (Berkeley)—
March 16-17. (Both are Conferences.)

University of Oklahoma—March 23-27.

University of Washington—Apr. 6-10.

Northwestern University—June 22-26.

Top Management Conference

Pennsylvania State University—
May 7-8.

Terminal Management

University of Oklahoma—January.
Pennsylvania State University—
Oct. 5-9.

Evening Courses

The following evening courses are offered by Northeastern University, Boston, Mass. Most of them meet one night a week. Dates show beginning and end of course.

Transportation Practices—Jan. 27-May 19.

Current Transportation Problems—Jan. 26-May 18.

Motor Carrier Operations—Jan. 27-May 19.

Terminal Operations—Jan. 29-May 21.

Traffic Management—Jan. 27-May 19.

Freight Claims for Loss and Damage—Jan. 29-May 21.





"E" Series HRC* CUPS

WITH EXPANDERS

Creates a Positive Seal!

*Heat Resisting Compound



EXPANDER CUPS

That's why they're better—that's why they last longer—that's why you should use "E" Series Cups on all jobs! And remember—cups with expanders are used in America's highest priced cars!

EIS Wheel Cylinder Kits come with "E" Series Cups and they cost no more than most kits with plain cups. All EIS Wheel Cylinders are equipped with "E" Series or patented Ribbed Cups where applicable—at no extra charge! All EIS Master Cylinders and Kits come with Ribbed Secondary Cups—extra value at no extra cost!

ORDER THIS HANDY A222 "E" SERIES CUP AND EXPANDER ASSORTMENT

Write for Catalog

EIS AUTOMOTIVE CORP., Middletown, Conn.

RMC SPECIALIZES in Automotive VALVES and VALVES ONLY!

- Suppliers to Original Equipment Since 1908.
- Featuring: 2 piece (Bi-Metal) Exhaust Valves.
- Heat Banded, Stellite Faced and Aluminized Heavy Duty Valves.



**THIS TRADE MARK
GUARANTEES YOU
"SPECIALIZED" QUALITY**

rmc has specialized, for a half century, in making nothing but valves for the automotive industry. That's why **rmc** valves give more mileage and better performance under every operating condition. Take advantage of this "Specialized" quality—insist on **rmc** valves.

COMPLETE COVERAGE VALVE TRAIN PARTS

VALVE SPRINGS	ROTATOR VALVE
VALVE LOCKS	KITS
VALVE GUIDES	VALVE SPRING
VALVE SEATS	INSERTS

Warehoused in all principal cities. Sold by leading Replacement Parts Wholesalers everywhere.

RICH MANUFACTURING CORP.
BATTLE CREEK, MICH.

FOR INFORMATION
WRITE TO



EQUIPMENT PURCHASES

Gateway Transportation, LaCrosse, Wis., is adding 50 new Highway trailers to its over-the-road fleet. The order includes 40 Highway Clippers, 40 ft long, with aluminum panels and adjustable tandems, and 10 Highway Econovans, 35 ft long, with open tops and adjustable tandems.

Indianapolis (Ind.) Water Co. is placing in service two new specially-designed water line maintenance trucks. Chassis are 2½ ton Dodges equipped with special bodies from Reading Body Works. Special equipment includes telescoping roofs, built-in generator for night operation, high-capacity pump, and a heavy-duty air compressor for operating jack hammers.

Hoover Motor Express, Nashville, Tenn., has recently purchased 130 new road tractors. All are 9000 Series Whites. The new equipment represents a two million dollar investment.

Yellow Transit Freight Lines, Kansas City, Mo., has added 15 Kenworth cab-beside-engine tractors to its fleet of 302 similar units. The new rigs are powered by the Cummins JT-6-B.

Associated Transport recently placed in service 12 Mack COE diesels. The new tractors are headquartered at the Burlington, N. C., terminal. The units are Mack's Model No. H67T with sleeper cab.

Greyhound Rent-A-Car, Inc., has bought 8000 new 1959 automobiles. They will be used in 100 rental stations operated by Greyhound in 32 major cities. Purchase of the new cars is the company's first step in a new major expansion program.

Classified Advertisement

BUFFALO AREA TRUCK TERMINAL: will build to your specifications and lease, or sell land. Route 324 located Grand Island, N. Y., adjacent and ½ mile to entrance N. Y. Thruway; 4 miles to Niagara Falls; 4 miles to Tonawandas; 8 miles to Buffalo; 8 miles to bridges to Canada for connections to Toronto, Windsor and Detroit. H. H. GRAVER, 179 Buffalo Street, Hamburg, New York.



**"THIS LUBRICANT
HELPS US GET
HIGH MILEAGE
WITHOUT REPAIRS"**

says—
INDEPENDENT TRUCKERS, INC.
of Omaha, Neb.

We use LUBRIPLATE Lubricants for wheel and other bearings on our fleet of more than twenty-five cab-over-engine, single axle trucks. At the 600,000 mile fleet inspection, no major replacements of king pins, bushings nor shackle pins was necessary. Wheel-bearing packing schedules have been increased to every 100,000 miles. We feel that the use of LUBRIPLATE was a contributing factor which enabled us to obtain such high mileage without repairs.

O. C. Trout
Vice President

**REGARDLESS OF THE SIZE AND
TYPE OF YOUR MACHINERY,
LUBRIPLATE GREASE AND
FLUID TYPE LUBRICANTS WILL
IMPROVE ITS OPERATION AND
REDUCE MAINTENANCE COSTS.**

LUBRIPLATE is available in grease and fluid densities for every purpose... LUBRIPLATE H. D. S. MOTOR OIL meets today's exacting requirements for gasoline and diesel engines.



For nearest LUBRIPLATE distributor see Classified Telephone Directory. Send for free "LUBRIPLATE DATA BOOK"... a valuable treatise on lubrication. Write LUBRIPLATE DIVISION, Fiske Brothers Refining Co., Newark 5, N. J. or Toledo 5, Ohio.



NEW

PRODUCTS

DESCRIBING RECENTLY ANNOUNCED PRODUCTS AND EQUIPMENT OF INTEREST TO MEN CONCERNED WITH TRUCK, BUS AND CONSTRUCTION FLEET MANAGEMENT



Tandem Axle V-Belt Drive

*The Dayton Rubber Co.
2342 Riverview Ave., Dayton, Ohio*

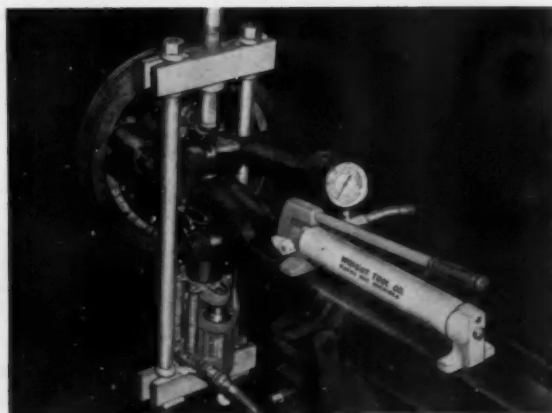
is for use on pusher or trailing tandem axle suspensions. Named the Dayton Thoro-trac, the new drive is said to improve traction, increase tire mileage and give better braking. It requires almost no maintenance. The drive can be mounted on most units without modification. A flexible de-icer band on the inside of each pulley prevents ice and slush from forming in the groove.



Laminated Douglas Fir Trailer Floors

*from Oregon Laminated Lumber Co.
2500 S. E. Harold St., Portland 2, Ore.*

are manufactured for truck and trailer use under the trade name of "Lam-Dek." Decking is made of laminated Douglas fir, vertical grain, and comes in standard panels of 30 to 34 in. widths and lengths from 10 to 20 ft. Thicknesses are 1 1/16 in. to 1 3/4 in. Sections are tongue and grooved for specified width and may be rabbeted if desired. A Penta-treatment process treats the wood to resist moisture absorption. Decks will not warp or cup, says the maker. The six sections were installed in the 35 ft flat-bed trailer shown in the photograph in less than three hours by the Douglas Hood Co., Portland, Ore.



Hydraulic King Pin Remover

*from Wright Tool Co.
4320 N. Woodward Ave., Royal Oak, Mich.*

is designed especially for heavy-duty trucks, buses and off-highway equipment. With a 30 ton rating, it is said to remove tapered or straight king pins quickly. Hydraulic ram has 2 1/2-in. travel, is powered by a 1,000 psi hydraulic pump with built-in overload valve and safety gage. Brake drum need not be removed (see photo). Hydraulic ram and pump are detachable and can be used as a portable power unit in the shop.

Truck Tire Remover

from Speedway Machine and Tool Co.
1802 N. Luett St., Indianapolis 22, Ind.

separates tire and rim in as little as 59 seconds. Called the Speedee Truck Tire Remover, it handles any type of tire—tube or tubeless—in sizes from 15 to 22 in. It operates on a closed pneumatic system using compressed air over oil to bring the shovels down on the bead with an even all-around pressure. The unit eliminates damage to tires and rims caused by beating, and gives maximum safety to personnel, says the maker. It is available on a buy-or-lease basis.



Truck and Trailer Overhead Doors

from Barber-Colman Co.
Dept. 8H, Rockford, Ill.

are made for all types of units from light delivery trucks to over-the-road trailers. Models are also made for straight-body trucks with two doors to a side for bottler service (as illustrated). Main features of the overhead doors are said to be high strength, low cost and minimum maintenance. Truck can be parked against loading docks before doors are opened. Pallet loading is made easier. The overhead doors have ball-bearing rollers, heavy-gage steel track, torsion spring counterbalance and weather-proof joints between door sections.



Portable Hydraulic Circuit Tester

from Schroeder Brothers Corp.
McKees Rocks, Pa.

connects into any hydraulic power system to measure fluid flow, pressure and temperature in the circuit. It indicates faulty pumps, valves or other components which can cause power dropoff. The PT-100B Portable Tester weighs 19 lb and is made in three models with different pressure and flow capacities. The unit can also be used for trouble-shooting torque converters.



Shop and Parking Area Sweeper

from Patch and Kase Corp.
159 S. Irwindale Ave., Azusa, Cal.

sweeps and picks up all objects from nuts and bolts to coke bottles and 2 x 4's. Named the Task Master Industrial Power Sweeper, it is powered by a 2-cyl air-cooled engine and operates at speeds from ¼ to 15 mph. Standard features include stabilized floating main and side brooms which adjust automatically to sweep irregular surfaces, power steering, and automotive type controls. Automatic clutch maintains proper broom and travel speed relationship. Oversized vacuum system has extra volume and capacity to handle vacuum attachments for cleaning shelves and bins. Rear wheel drive and steering assembly gives the Task Master a 5½ ft turning radius.

(TURN TO NEXT PAGE, PLEASE)



New Product Descriptions

Continued from Page 157

Boring Bar

from Lucker Mfg. Co.
331 N. 4th St., Philadelphia 6, Pa.

is designed for repairing distorted anchor and cam pin holes on brakes. After removing vehicle's rear wheels the Model No. D-500 boring bar is

clamped over the load tube. Holes are then bored to permit insertion of oversize bushings. With the bushings, brake alignment may be brought back to factory specifications. Used with the company's Model No. D-600 king pin adapter, the borer may also be used to rebore king pin holes in the front steering spindle.



LAMSON & SESSIONS' BOLD NEW BOXES

Speed Shipping • Reduce Mistakes • Save Time and Money

It's BIG . . . it's BOLD and it's the best looking fastener package going to the automotive market. What does this mean to you? It means you can fill orders or choose the fasteners you need in a jiffy. Plainly visible in dimly-lighted stockrooms, no climbing to top shelves to read the labels and fewer mistakes.

Lamson labels are printed right on the carton, so they can't come off or get that messy, "dog-eared" look.

Yes, the new Lamson & Sessions' labels are a great help to jobbers and dealers who carry replacement fasteners in stock. It's another extra Lamson customer service . . . at no extra cost.

The LAMSON & SESSIONS Co.

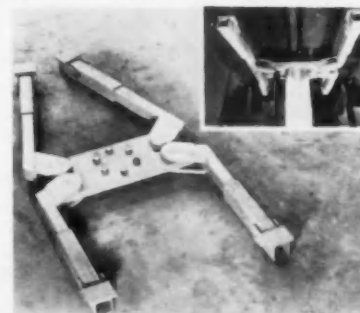
5000 TIEDEMAN ROAD, CLEVELAND 9, OHIO • PLANTS AT CLEVELAND AND KENT, OHIO • CHICAGO • BIRMINGHAM



Frame Lift

from Autoquip Corp.
1140 S. Washtenaw, Chicago, Ill.

has four telescoping supporting members which readily adjust to various sizes of passenger cars. Called the Space-Miser, the lift is said to use 50



per cent less space than conventional models while providing greater strength and safety. Other features include a dial system for adjusting the lift to fit the car.

All Purpose Tire

from Seiberling Rubber Co.
Akron 9, Ohio

is an adaptation of the company's "Commutor" snow and mud passenger car tire for use on light trucks and buses. It features slotted ribs and deep shoulder lugs on a wide, flat tread. Tread is designed for self-cleaning to prevent mud and snow from packing between shoulder lugs. Tire is offered in three sizes: 7.50-20, 8.25-20, and 9.00-20.

Power Unit

from Welding Products Div.
A. O. Smith Corp., Milwaukee, Wis.

is a 180-amp machine which plugs into a 220-volt outlet for a variety of welding uses, or for charging 6- or 12-volt batteries. Designed to accommodate AC electrodes from 1/16 through 5/32 in., it has two welding ranges: one for deep penetration, the other for a smooth surface weld. The

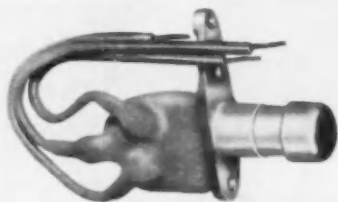


battery charges features silicon rectifiers. The machine is available as a welding model only. A battery charger kit may then be installed at a later date, if desired.

Dimmer Switch

from Cole-Hersee Co.
20 Old Colony Ave.
Boston 27, Mass.

is a die cast unit with plastic coated body and wire leads to protect against moisture, dirt, chemicals and road



splash. The switch mechanism is of the heavy-duty oscillating type. It has positive snap action contacts which provide quick contact "break" to reduce arcing. The switch is identified as Model No. 7700.

Air Filter Signal

from Bacharach Industrial
Instrument Co.
200 N. Braddock Ave.
Pittsburgh 8, Pa.

warns when dirt has clogged a wet or dry air filter to the extent that insufficient air is passing through. The signal is equipped with lugs for easy



mounting at the filter or on the dashboard. As dirt accumulates in the filter, a bright red warning signal rises gradually in the indicator's viewing window. When the filter has been serviced, the signal may be returned to its low position by depressing the reset button.

Rubber Lubricant

from American Grease Stick Co.
Muskegon, Mich.

is an improved version of the company's "RuGlyde" lubricant. The clear liquid is said to be non-staining.

(TURN TO PAGE 162, PLEASE)

1958 Domestic Truck Factory Sales by G.V.W.

Month	6,000 lb. and less	6,001-10,000 lb.	10,001-14,000 lb.	14,001-18,000 lb.	18,001-26,000 lb.	26,001-33,000 lb.	Over 33,000 lb.	Total
January	32,143	10,187	1,075	5,454	6,991	3,640	2,482	64,220
February	26,460	8,322	963	5,167	5,303	3,545	2,460	53,966
March	27,829	8,450	963	5,561	5,431	4,006	2,929	57,637
April	25,822	8,868	1,041	5,896	5,933	3,918	2,169	56,042
May	26,329	9,152	1,071	5,905	7,051	4,182	2,236	58,509
June	25,241	9,120	1,238	5,976	6,275	3,674	2,026	56,019
July	24,237	7,668	788	5,038	5,393	3,211	1,911	50,454
August	21,768	7,374	782	4,024	5,618	3,637	2,016	47,030
September	14,377	5,329	633	2,960	3,484	2,913	2,383	34,232
Total—9 Mos. 1958	224,306	74,448	8,542	46,082	51,480	32,725	20,614	477,931
Total—9 Mos. 1957	332,432	100,290	23,001	87,044	30,593	33,936	26,084	606,707

Source: Automobile Manufacturers Association.

PASSENGER CARS

SMALL ENGINES & MAGNETOS

SERVICE PARTS FOR SMALL ENGINES AND MAGNETOS

UNIT BREAKDOWN OF DISTRIBUTORS, GENERATORS AND STARTERS

3 NEW WINDOW DISPLAYS IN 6 COLORS

HEAVY DUTY VOLTAGE REGULATORS

P&DIZE

MORE ELECTRICAL SYSTEMS WITH THESE SALES HELPS...

6 NEW CATALOGS OF P & D PARTS

Plus—A Technical Book on "Causes & Cures of Ignition Troubles—" Price \$1 a copy

And—The New P & D-ize slogan backed by a 12 month warranty on all parts!

Mobile Display signs • New Tune-up Chart • New Decals • A revised Field Program of cooperation between jobbers, dealers and P & D representatives.

All of which spells one thing only for you—MORE SALES!

Can you afford to ignore P & D-izing? Write us now.

P & D MANUFACTURING CO., INC. Established 1920
19-02 Steinway St., Long Island City 5, N. Y.
Export Sales: Borg Warner International, 315 So. Wabash Ave., Chicago 3, Ill.

For Longer and Better Engine Life...

P&DIZE YOUR ELECTRICAL SYSTEM

RECEIVE 12 MONTH GUARANTEED WARRANTY

TOP NOTCH Tune-Up Jobs

THE ASSURED CONTACT SETS

COILS

MARINE ENGINES

TRUCKS, BUSES & TAXIS

INDUSTRIAL ENGINES & FARM TRACTORS

INDUSTRIAL ENGINES & FARM TRACTORS

BANNER 18" x 50" 3 COLORS

Here's how you can cut your fleet-maintenance costs with Champion "know how"



Champion representative demonstrates how new "Plug-Mate" socket holds spark plug in a firm, magnetic grip — for faster, easier plug changing (see Service Tips)

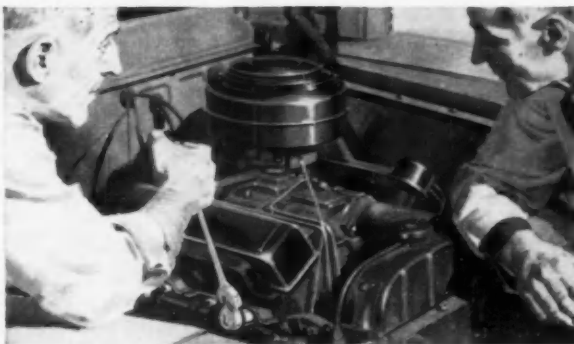
EXCLUSIVE TECHNICAL HELP

Your Champion representative is standing by to help you cut maintenance costs. An ignition expert with wide experience in helping other fleets reduce maintenance bills, he has the "know how" that can help you trim expenses — while improving ignition perform-

ance. And he's backed by the world's largest research and engineering organization devoted exclusively to spark plugs. Put this exclusive Champion service to work for you. Call your Champion representative or supplier, or write Champion at Toledo, Ohio.

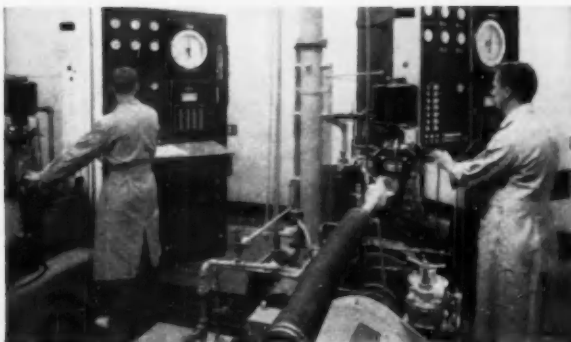
CHAMPION SPARK PLUG

COMMERCIAL CAR JOURNAL, December, 1958



SERVICE AIDS

Champion-engineered service aids, like the "PLUG-MASTER" wrench shown above, speed up spark plug service and cut down maintenance costs. The "PLUG-MASTER" gets at hard-to-reach spark plugs easier, quicker — reduces time and labor costs for plug changing. See your regular Champion supplier.



RESEARCH AND PRODUCT DEVELOPMENT

In one of the new Champion research laboratories, experts use specially designed engines that subject plugs to conditions much more severe than any found in actual use. In this way engineers solve problems to help you cut maintenance costs.



SPECIAL APPLICATION PLUGS

If your engines are used in low-rpm operations or stop-and-go driving, you know how quickly ordinary spark plugs become fouled. Auxiliary-gap Champions combat excessive fouling — cut down maintenance costs by reducing the number of costly cleanings needed to keep your engines hustling!

COMPANY • TOLEDO 1, OHIO

COMMERCIAL CAR JOURNAL, December, 1958

CHAMPION SERVICE TIPS For Easier Maintenance

NEW "PLUG-MATE" MAGNETIC SOCKET
for "Plug-Master" and other wrenches



Permanent Alnico magnet of Champion's new "Plug-Mate" socket holds spark plug in a firm, magnetic grip (without magnetizing plug) — for easier, faster removal and installation!

Champion's new "Plug-Mate" socket has diamond-pattern knurling that won't slip from oily fingers—and its deep 13/16" hexagon fit greatly reduces insulator breakage by holding spark plugs straight, without "cocking."

Contact your regular Champion supplier for details.

Dependable 5-rib

CHAMPION

SPARK PLUGS



New Products

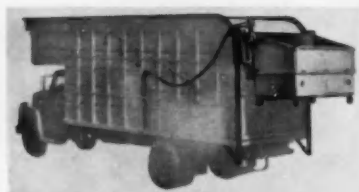
Continued from Page 159

It may be used for mounting and de-mounting tires, as an anti-squeak treatment on bushings and other rubber fittings, and as a rubber cleaner.

Bulk Loader

from Cook Bros. Equipment Co.
3334 San Fernando Rd.
Los Angeles 65, Cal.

has a load capacity of 3 cu yd or 1500 lb. It may be mounted on any metal or wood truck body. The loaders will

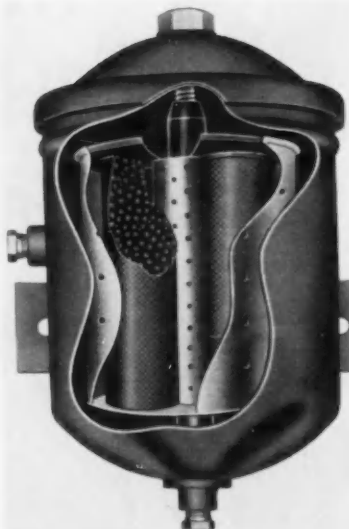


deposit the load at any point in the body for proper weight distribution. Called the "LoadEvator," it will handle a variety of bulk materials.

Oil Purifier

from Canadian and General
Development Corp.
261 Madison Ave.
New York 16, N. Y.

is claimed to retard formation of corrosive acids, varnishes and sludge in



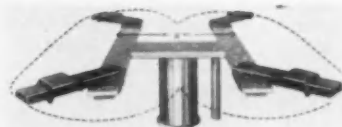
lubricating oils. Called the Pos-Met pH unit, it is fitted into the oil line.

Oil flows through the unit, passing over pellets of sodium-lead alloy and calcium. These alkaline or "positive" metals act to reduce acid. The unit is manufactured under license from the Canadian government and is an application of a principle discovered by Canada's National Research Council.

Universal Frame Lift

from Curtis Mfg. Co.
1905 Kienlen Ave., St. Louis 20, Mo.

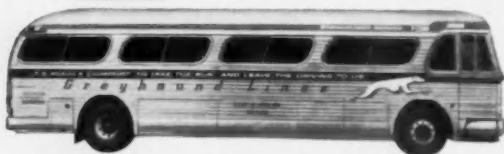
has a 36-in. wide superstructure and an overall height of less than five inches with the lifting pads in low position. The lift is equipped with swivel adapters which reach lifting areas designated by the car's manu-



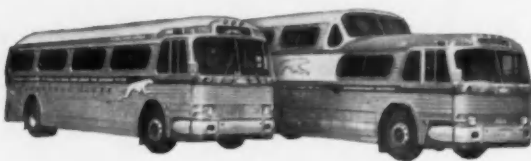
facturer. The lifting pads provide three different heights for proper clearance: "low" for most passenger cars; "intermediate" for cars with unitized bodies; and "high" for light trucks and older model passenger cars.

(TURN TO PAGE 164, PLEASE)

PUT YOUR SLOGAN ON WHEELS



with MEYERCORD Truck Decals



Meyercord Decals on your rolling stock can give your TV slogan, firm name or product reproduction... extra mileage! Whatever you make or merchandise—bread, beverages or beef... in cans or containers... anything from milk to missiles—Meyercord Decals, year after year, deliver many thousands of miles of effective circulation, as well as added parking profit. Greyhound's famous slogan sells travel... and travelling busses sell the slogan. Meyercord Decals are tough and durable... keep their smart appearance in all kinds of weather! They are easily applied to painted or bare metal surfaces... require a bare minimum of lay-up time. Mark your trucks, busses or fleet cars the modern way—with Meyercord Decals!

FREE—Full Color "Ads on Wheels" brochure. Write today.



the MEYERCORD co.

Dept. C-515, 5323 West Lake Street Chicago 44, Illinois

KIM Hotstart

electric pre-heater

for Diesel and Gasoline Engines

KIM HOTSTART pre-heaters circulate hot water through engines when they are not in use; protect them against bitter winter weather; keeps engines responsive to the touch of the starter. Lightweight; low cost; high in savings. Thousands in use.

- QUICK, EASY STARTS
- SAVES WARM-UP TIME
- REDUCES ENGINE WEAR
- ELIMINATES NEED FOR HEATED TERMINALS

4 MODELS
EASY TO
INSTALL

See your automotive dealer or write for literature

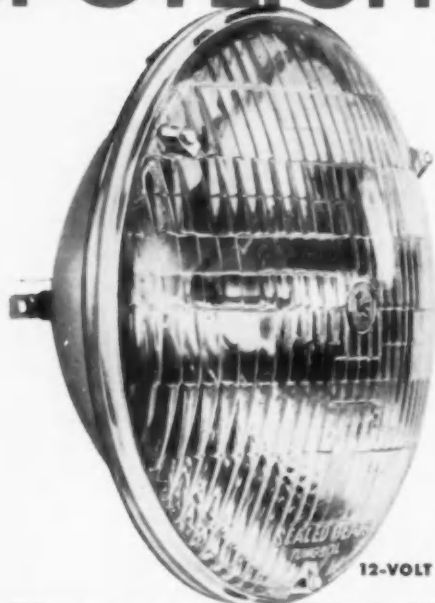
KIM HOTSTART MANUFACTURING COMPANY

West 917 Broadway, Spokane 1, Washington

HEAVY DUTY

VISION-AID HEADLAMP WITH SPOTLIGHT LOW BEAM

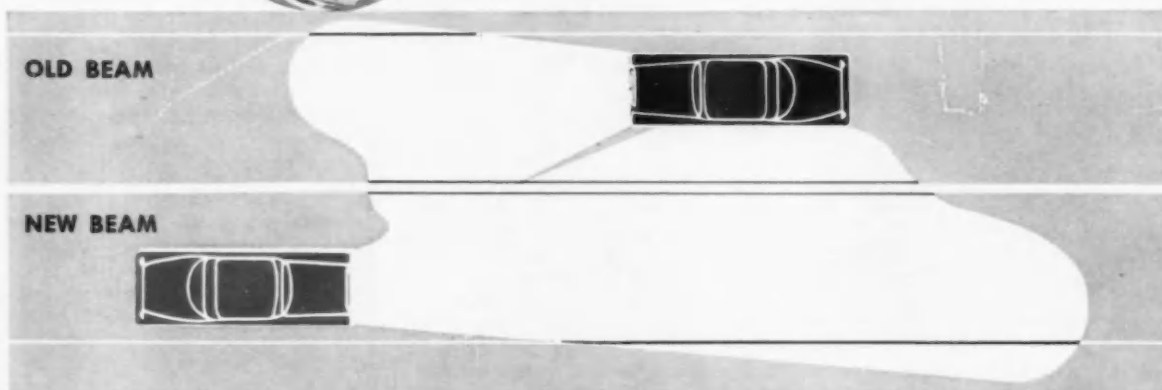
6013



NEW FOR RUGGED FLEET SERVICE

Redesigned lens • Improved high beam
Glare-reducing filament shield
Shock resistant, spot-welded filament support
E-Z aim platforms • Ruggedized filament mount

**BETTER VISIBILITY . . . SAFER PASSING
FOR ALL TWO-HEADLAMP FLEET VEHICLES**



Here's how the new spotlight low beam helps you see better and pass more safely

OLD Range of low beam in old-type 7-inch headlamps is no longer adequate for modern highway conditions. As vehicles approach, the opposing headlights create a glare that tends to cancel out the visibility of both drivers—and cause a critical “blind-spot” in passing.

NEW 6000 series spotlight low beam concentrates more light farther along the right side of road, away from oncoming lights . . . provides better visibility thru critical passing zone. Even against 4-headlamp vehicles and undimmed lamps, more light gets through. You pass with less eye strain, less hazard.

FOR PASSENGER CAR FLEETS:

Specify 6006 (6-volt) or 6012 (12-volt) Vision-Aid Headlamps with Spotlight Low Beam.



TUNG-SOL®

NEW TUNG-SOL VISION-AID HEADLAMPS with SPOTLIGHT LOW BEAM
Lamp Division, TUNG-SOL ELECTRIC INC., Newark 4, N. J.

New Products

Continued from Page 162

"Dick Tracy" Radio

from Motorola, Inc.
Communications and Electronics Div.
4501 W. August Blvd.,
Chicago 51, Ill.

is a pocket sized receiver and transmitter which can be incorporated in existing systems in the 25-54 and 144-174 mc bands to link a man on foot with the system. The units are known as the "Handie Talkie" receivers and transmitters. They use mercury or nickel-cadmium batteries, are light in weight, compactly designed. Test units have operated successfully within a 10-mile range in a city.

Belt Tension Gage

from Burroughs Tool & Equipment Corp.
P. O. Box 207, Kalamazoo, Mich.

has a dial gage which shows the V-belt tension in pounds strand ten-



sion. Knowing the recommended belt tension, the mechanic can set the belt to the proper tension by direct gage readings. The belt may be gripped from either top or bottom.

Coolant Additive

from Grace Products, Inc.
6 Braeburn Rd., Havertown, Pa.
is called "5 in 1", and is said to lubricate the water pump, inhibit rust, seal the radiator and the block, and prevent head gasket seepage. The product combines non-abrasive particles with soluble oil. Circulated through the system in the coolant, the oil and particles each perform separate functions.

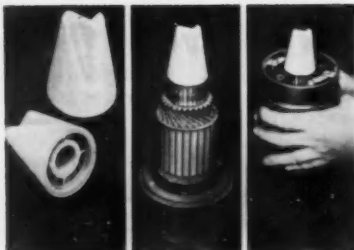
1958 Truck Trailer Shipments

Type of Trailer	September	Nine Months
Vans		
Insulated and refrigerated	317	2,541
Steel	19	271
Aluminum	298	2,270
Semi-insulated	38	407
Steel	38	407
Aluminum	83	1,179
Furniture	83	1,179
Steel	83	1,179
Aluminum	83	1,179
All other closed-top	1,812	11,970
Steel	533	3,955
Aluminum	1,279	8,015
Open-top	231	1,522
Steel	103	775
Aluminum	128	1,522
Total—Vans	2,481	17,619
Tanks		
Non- and low pressure		
Petroleum		
Carbon and alloy steel	205	1,661
Stainless steel	23	160
Aluminum	148	1,030
Total—Petroleum	376	2,851
Chemical, food, fluid solids	19	447
All other, incl. aircraft		
refuelers	54	352
High pressure (LPG),		
chemicals, etc.	35	233
Total—Tanks	484	3,863
Pole, pipe and logging		
Single axle	33	252
Tandem axle	66	418
Total	99	670
Platforms		
Racks, livestock and stake	79	1,067
Grain bodies, all types	116	733
Platforms (flat), all types	649	4,431
Total—Platforms	844	6,261
Low-bed heavy haulers	212	1,833
Dump trailers	169	1,902
All other trailers	153	1,469
Total—Complete Trailers	4,442	33,637
Trailer chassis	342	2,453
Total—Trailers and Chassis	4,784	36,090

Source: Industry Division, Bureau of the Census.

Brush Spreader

from Auto-Test, Inc.
600 S. Michigan Ave., Chicago 5, Ill.
is designed for use on all Auto-Lite and Delco-Remy starters. In use, the "Zippo Brush Spreader" is slipped over the armature shaft on the commutator end. The case containing the brushes and springs is then positioned down over the spreader and dropped into place. The brushes are



automatically positioned on the commutator. Then the spreader is removed. Made of plastic, the spreader is in the form of a truncated conical helix. It has two symmetrical helical flutes to initiate the direction of the brushes.

Driver's Seat

from Michael Brand Associates
12138 Victory Blvd.
N. Hollywood, Cal.

uses a double-action shock absorber as its base support, has Airfoam back and seat cushions. Providing five inches of adjustment from front to rear and three inches up and down, the seat back may be further adjusted to provide additional tilt and increase the support of the lower back. The



seat is 20 in. wide, 18 in. high. A special device on the back forms the cushion to the curvature of the driver's back. The shock absorber action may be adjusted both for shock and pitching under rough driving conditions.

Sealed Beam Lamps

from Tung-Sol Electric Inc.
95 Eighth Ave., Newark 4, N. J.
are designed for glare-free passing of approaching vehicles. The Vision-Aid lines include Model No. 6412 for heavy duty truck and bus use. The lamps may be directly interchanged with any seven-inch sealed beam headlamp in 6 or 12-volt systems. By redesigning the lens and repositioning the internal elements the manufacturer has produced a lamp with a "passing beam" which is said to eliminate the blind spot caused by opposing headlamps.

Anti-Skid Compound

from E. I. Du Pont de Nemours & Co. Grasselli Chemicals Dept.
Wilmington 98, Del.
may be specified by shippers when ordering cartons from a carton manufacturer. Known as "Ludox" colloidal silica, the compound increases a carton's resistance to slipping when it is tilted. In tests, cartons were tilted at angles of up to 30 deg before they started to slip.

The Only Safe Way



TO CHANGE TUBELESS TIRES

on Light-Duty Vehicles

Tire manufacturers' recommendations must be followed when mounting and demounting 14" and 15" tubeless tires on small commercial trucks and other light-duty fleet vehicles. These include the use of an approved lubricant.

RuGLYDE is THE approved tire lubricant—the only rubber lubricant that speeds and simplifies tire changing without endangering the air seal, rubber or paint finish in any way! RuGLYDE permits perfect bead seating—prevents "after-slippage" and tire "thumping"—and will not induce rust.

and Large Heavy-Duty Trucks

The need for RuGLYDE for larger truck tubeless tires is even more urgent. Applied to bead and rim, RuGLYDE eases the difficult job of seating the tighter and heavier bead on the tapered rim . . . prevents scuffing . . . protects the air seal. A "must", too, for tube and flap assembly.

RuGLYDE is also an ideal "cleaner" for making tires and rubber accessories look new. Use on lube-rack, too. Its deep penetrating action makes it unexcelled for squeak-proofing rubber parts and fittings.

See your jobber or write



R-338

**AMERICAN GREASE STICK COMPANY
MUSKEGON, MICHIGAN**

Windshield De-Icer

from Shermerhorn Products, Inc.
1549 Hilton Rd., Ferndale, Mich.

comes in six-ounce aerosol cans, is said to prevent ice from forming for up to four days per application. Known as "Thaw," the product is said to be safe on rubber, lacquers, paint and enamel, can be used to thaw frozen locks and windows. It will not gum up the windshield, the manufacturer states, and may be washed and wiped clean.

Hydraulic Line Filter

from Schroeder Brothers Corp.
McKees Rocks, Pa.

may be installed in the hydraulic line to filter out minute particles. Equipped with a standard replaceable low cost filter element, the unit is available with initial particle selection ratings of from 3 to 40 microns. Manufacturer states the filter will remove dirt particles as small as 0.000118 in. Housing has a flip-top cap for working pressures of up to 250 psi. Two-bolt caps are available for pressures up to 4000 psi. Units of up to 150 gpm capacity are of-



ferred. Each housing block has an integral low pressure high volume relief to protect the filter element and reduce the fittings to "In" and "Out" external lines. Maximum temperature rating for most models is 275 deg F.

Giant Stoplights

from Arrow Safety Device Co.
Georgetown 12, Del.

feature a seven-inch lens for easy visibility. Available for 6 or 12-volt systems, models can be flush mounted or mounted with studs or brackets. Arrow claims they're watertight and need no maintenance.

HUNTER CARGO HEATERS LP-GAS-FIRED



positive
protection
against
freezing or
heat loss

standby
and
enroute



- exclusive new jet-type burner provides high-volume heated air
- 24-hour maximum heat output — at very low cost
- no electrical power required
- fully automatic thermostatic control — no "hot spots" — no "cold spots"
- no moving parts — minimum maintenance
- conform to ICC safety regulations
- compact — use less cargo space
- operate in coldest weather — no flame-out
- heat rating — 16,000 BTU/hr.

MODEL UH-98
for permanent installation

MODEL UH-99
for portable use

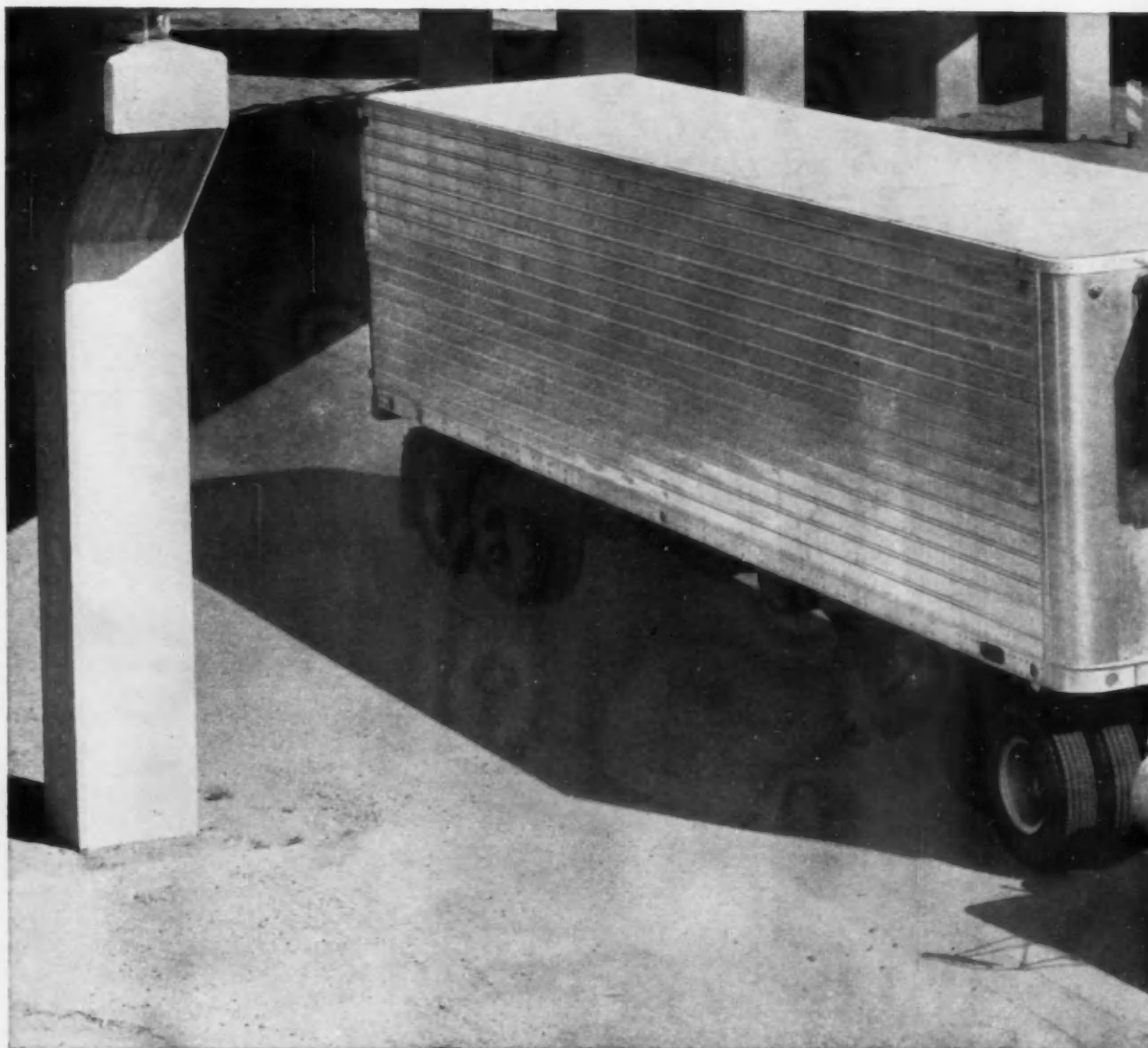


Write for descriptive
literature
and complete
specifications

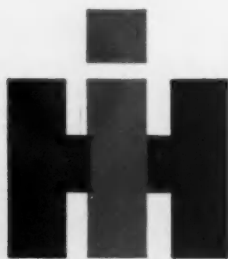


HUNTER MANUFACTURING CO
30525 AURORA RD.
OLON, OHIO
HEATING AND REFRIGERATION SYSTEMS

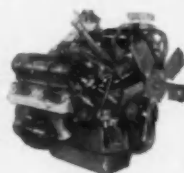
INTERNATIONAL Heavy-Duty V-8 TRUCKS save something you



International Harvester Company
Chicago
Motor Trucks • Crawler Tractors
Construction Equipment
McCormick® Farm Equipment
and Farmall® Tractors



They GO on the job! They stay on the job! V-8 powered INTERNATIONALS are available with 401, 461, 549 cu. in. displacement engines—most powerful, most economical you can get. Models (conventional, cab-over-engine) to 76,800 lbs. GCW.



INTERNATIONAL

can't replace...TIME!



Sightliner® V-8 powered model is only 48 inches from bumper-to-back-of-cab, an important factor for bigger payloads and profits. Hauls high-cube trailers with the most usable horsepower on the road. Shortest "proved-in-use" tilt-cab available. Pushbutton lift tilts cab in seconds. Sightliner gives you "high-low" vision with its three windshields. Four- and six-wheel models rated to 65,000 lbs. GCW.

Once time is gone you can't get it back. And that's why more and more highway haulers have turned to heavy-duty V-8 powered INTERNATIONAL Trucks.

They know that the truck-type V-8 engines in these INTERNATIONAL models precisely answer the demand for *high speed operation* at least cost.

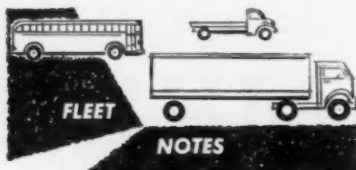
Turned-up to their best cruising speed, these INTERNATIONAL V-8's *keep* moving with less time needed for down shifting, make higher average road speeds, faster turnarounds and more trips per truck per week!

Get the time- and money-saving facts about INTERNATIONAL V-8 Trucks from your INTERNATIONAL Dealer today. He has the know-how and the model to give you the best truck for your job!



INTERNATIONAL conventional model V-8 trucks have established new standards for economy and quality. Engines are specially matched with drive lines to pull your load on your operation at least cost. Frames, axles and cabs are built by truck specialists with the know-how to make trucks last a long, long time. Ninety-six in. BBC standard or 126 in. BBC sleeper cabs in four- and six-wheel models to 65,000 lbs. GCW.

TRUCKS cost least to own!



Motor Cargo Inc., Akron, Ohio, has a new terminal in the works for York, Pa. It will handle 44 trailers. Included will be a safety inspection service building to handle four rigs at one time. Fueling and weighing facilities are also planned.

Coast-Lee & Eastes, Inc., Seattle, Wash., has a new Superintendent of Equipment and Maintenance. He is W. W. Churchill, formerly with Western Greyhound Lines before he was retired there.

F. M. Williams, assistant director of safety and driving for Pacific Intermountain Express, has been named Chairman of the Council of Safety Supervisors of the California Trucking Assn.

Federhofer Inc. is the new name of N. W. Federhofer Drayage Inc. The company leases and rents trucks, tractors, trailers and automobiles in the St. Louis, Mo. area.

Pittsburgh Group Companies, Columbia Gas System, Pittsburgh, Pa., is using a three-unit Aetna Drivetrainer in refresher courses for its 1100 car and truck operators.

Ward Baking Co. has appointed Gilbert E. Larsen as automotive fleet manager. He succeeds O. E. H. Froelich, retiring after 30 years with Ward.

"Smooth-Sider"



Trailmobile has recently introduced a new model called the "Smooth-Sider" Integral Post trailer. By reversing the side panel posts to the trailer interior, a smooth outside skin is made possible. This, says Trailmobile, results in less wind drag, cuts washing costs, and affords an excellent "billboard" for advertising. The trailer is all-steel constructed, is 35 ft long and has a 2100 cu ft capacity.

Checker Cab Co., Kokomo, Ind., has started transit service with small nine-passenger buses covering four sections of the city. The city lost its regular bus service when Kokomo City Lines went out of business.



Spector—Mid-States Freight System, Chicago, has announced that 78 over-the-road drivers recently completed one million miles without an accident. The drivers are members of a relay team hauling freight between Chicago and the East Coast. A special dinner is planned for January to honor the million-milers and officially make them members of Spector—Mid-States "Million Mile Club" founded in 1956.

Central Truck Lines, Tampa, Fla.—to 44 drivers with safety records ranging from one to 17 years. Awards were presented at a series of safety meetings throughout Central's system.

MOTORITE DIESEL COMPRESSION TESTER



Connection of MOTORITE to engine is by means of interchangeable adapters replacing the fuel injector in the cylinder. "Universal" adapter illustrated at left is adjustable for use on more than 100 popular makes and models of Diesels. Additional adapters are available from stock for all Diesel engines listed at right. For other Diesel engines special adapters are made to order.

Allis-Chalmers
Buda
Caterpillar
Cietrac
Cockshutt
Continental
Cummins
Ferdson "Major"
General Motors
Gray Marine
Harnischfeger
Hercules
Intern. Harvester
J. I. Case
John Deere
Leyland
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Massey-Harris
Minneapolis-Moline
Murphy
Oliver
Packard
Perkins
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Waukesha

Indispensable for servicing buses, trucks, farm tractors, contractors' machinery, drilling rigs and other mobile Diesel-powered equipment.

Mail Coupon For
FREE
Service Manual

**COMPRESSION
PRESSURE**
Key to
Diesel
Efficiency
BUL. 692

BACHARACH INDUSTRIAL INSTRUMENT COMPANY
200 N. Graddock Ave., Pittsburgh 8, Pa.

☐ Send me FREE copy of your Service Manual Bul. 692
☐ Send me Product Leaflet 646 on the MOTORITE

NAME _____

COMPANY _____

STREET _____

CITY & STATE _____

2

OCT-17

Satisfaction GUARANTEED!

'BOS' HYDRAULIC TRUCK TIRE DEMOUNTER



Beats them all for fast, easy operation. Frozen or stuck casings slide off rims in minutes.

HANDLES ALL SIZES AND TYPES, INCLUDING 14:00 x 24.

Hein-Warner Hydraulic Unit

You can't Lose With
Our Money-Back Guarantee.

WRITE THREE STAR SALES CORP.
12 Depot Square • Englewood, N. J.

CLEAN AUTOMOTIVE & INDUSTRIAL PARTS 3 WAYS!



SAFE!

1. Continuous Flow Hose
2. Air Agitated Soaking Tank
3. "Super Power" Jet Air Gun

A must in every service shop!

**Keeflo SUPER
CLEANMASTER**
MODEL 50

Write for Literature:

Model 30 (less Jet Air Gun) also available

America's Foremost Producer of Parts Cleaning Equipment

PRACTICAL MFG. CO.
2840 4TH AVE. S. • MINNEAPOLIS, MINN.

Optimum Chemical, Beverage, Food Payload with Litewate Portersville Stainless Tanks



Engineered to eliminate every ounce of needless weight for optimum payload. Exclusive Portersville reinforcing rings at stress points assure you of extra mileage per tank. Portersville micro-smooth stainless steel tank interiors exceed sanitary requirements while cutting cleaning costs.

Send your tractor data and commodity requirements to our engineering department. We'll send you a Portersville Loading Diagram designed to fit your requirements.

Portersville Stainless Equipment Corp.

PORTERSVILLE (BUTLER COUNTY) 9, PA.

MECHANEX WHEEL OIL SEALS



for SURE, ECONOMICAL
bearing protection

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VALVE SPRING INSERTS (V.S.I.)

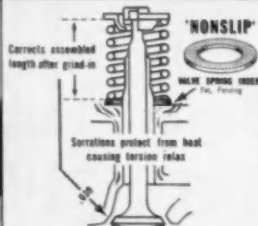


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Sample entries show how to keep this simple record.

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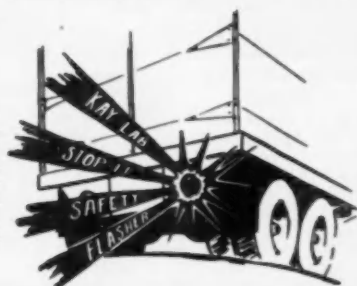
You'll see where to cut costs, where your best profit opportunities are, when you keep your business and tax records in this easy "do-it-yourself" book. No bookkeeping experience needed. Especially designed for and used by thousands of truckers. From America's largest publisher of simplified bookkeeping systems. Recommended by bankers and accountants. Order from your stationer, \$3.50 and up. If he doesn't stock, write for full information to THE IDEAL SYSTEM COMPANY, 2437 West Pico Boulevard, Los Angeles 6, California.

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FOR DEPENDABLE
QUALITY PRODUCTS

KAY LAB is repeatedly the choice with every City, County and State government requiring flashing lights on emergency vehicles because only Kay Lab has the features specified.



"STOP-IT" SAFETY FLASHER

Finest flasher made. Makes lights flash on-and-off. Used for flashing warning signals and directional signals. Available in 4 types. Will flash any auto lamp to 64 candlepower, 5 amperes, standard ratings 6 or 12 Volts.



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HEAVY DUTY. Meets requirements of State Laws for alternating flashing signals. Up to 15 amperes, 6 or 12 Volts. No parts to wear out; requires no lubrication, no upkeep. Operates magnetically. Good for lights or horn signals.

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819 Valencia Street, San Francisco 10, Calif.

NEW AND BETTER!
JOB-DESIGNED TOOLS
by **KEN-TOOL**

**FLANGE TYPE
REAR AXLE PULLER**

P-60

Attaches to any standard wheel-puller. Pulls any flange-type rear axle on late model cars and trucks. Delivers a powerful blow to jar loose the tightest axle shaft. A must for every GARAGE!

**NEW UNIVERSAL
DRAIN WRENCH**

G-13

NEW 7-way wrench, for all late model cars. Includes two 5/16" hex for newest Chrysler cars.

**TIRE BUFFING
SPOON**

with replaceable wire buff

T-9

**NEW BATTERY
TOOLS**

B-26 2-in-1 post cleaner and cable spreader and cleaner. B-207 Chrome nickel Plier. B-24 New super-Grip Terminal Puller. B-25 Complete set 3 tools in B-26 carrying case. Sold as kit or separately. See your jobber.

KEN-TOOL MFG. CO.
AKRON 5, OHIO

FACTORY FLASHES

Milsco Mfg. Co., Milwaukee, Wis., has appointed Robert D. Walters as Midwest sales representative. Milsco specializes in cushion and contour seating.

Four Wheel Drive Auto Co., Clintonville, Wis., has approved construction of a new two-story engineering building. Completion is scheduled for the spring of '59.

Devilbiss Co., Toledo, Ohio, is expanding its Cleveland factory branch. Facilities will include complete repair service of the company's spray painting equipment.

Mid-Union Indemnity Co., Elgin, Ill., is staffing a coast-to-coast net of regional service offices located in principal cities. The company specializes in commercial transportation insurance.

Campbell-Hausfield Co., Harrison, Ohio, has appointed Sharpe Mfg. Co., 1224 Wall St., Los Angeles, Cal., as representative for its line of air compressors and paint spray equipment in 16 western states.

THE MANUFACTURERS OF

**7 OUT
OF 10**

U.S. MADE TRUCKS

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Pedrick

FORMFLEX
PISTON RING SETS

SIoux ABRASIVE DISCS

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"Cool as a
Cucumber"

From the modern, air conditioned plant of Albertson & Company's Abrasive Division (pictured below) are rolling the newest type abrasive discs. They not only cut faster with less effort, they stay "COOL as a CUCUMBER."

Next time you're ordering any SIoux and see.

ALBERTSON & COMPANY, INC.
SIoux CITY, IOWA, U.S.A.

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Bonds**



for greatest
overall economy

**WAUKESHA
ENGINES**

DIESEL • GASOLINE
NATURAL GAS • LP GAS

For oil savings in gas, diesel
or LPG engines

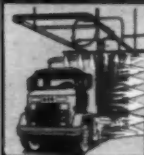
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Krome-Oil**

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with

Stainless Steel Oil Rings

CAR WASHERS



AUTOMATIC
ALL PURPOSE
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REVOLUTIONIZES
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INFORMATIVE
FOLDER

LOOSE UNIT



MACHINE SHOP

MANUFACTURERS
OF TRUCKING
EQUIPMENT



BULK CARRIER

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INDUSTRIES, INC.

PHONE 2072-2, GALION, OHIO



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POWER TAKE OFF

FIFTH WHEEL CRANE

Kinnear

Kinnear originated the

Rolling

interlocking steel slat

Doors

door that coils upward.

KINNEAR
Saving Ways in Doorways

Rugged, efficient
space-saving doors
FOR TRUCKS OR
ANY OPENING—
plus longer lower-
cost protection.



The KINNEAR Mfg. Co.
2100-20 Fields Ave.
Columbus 16, Ohio

NEW WHITE DIESEL FLEET FOR HOOVER IMPROVES CUSTOMER SERVICE



"Already our White Fleet is proving it delivers the service, economy, and payloads we need."

Eph Hoover, Jr., President.

"Our fleet of new White Diesels enables us to keep rolling around the clock to satisfy the toughest requirements of the shipping public."

That is the report from Hoover Motor Express Co., Inc., Nashville, Tenn., where 130 powerful, new White Diesels are now in regular service.

Eph Hoover, Jr., says: "In selecting White Diesel Tractors for our fleet, we know we can improve our service in the eight states we now serve . . . maintain and improve our established schedule runs . . . and do a better job of satisfying our customers."

What more need be said? These new Whites, like the husky new White Diesels in fleets across the country, are really rolling.

THE WHITE MOTOR COMPANY • Cleveland 1, Ohio

Founded in 1924, Hoover emphasizes the importance of modern equipment and fast personalized service to keep the shipping public satisfied.

Recent expansion into Indianapolis and Chicago through the purchase of the Indianapolis Forwarding Company gives thousands of customers in that area fast, direct service between the north and southeast—by White Diesel. "These new Whites never sleep," Mr. Hoover reports.

White... *Greatest Name in Trucks*

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PUSH-BUTTON . . . AUTOMATIC
TRUCKWASHER



SAVE up to 75% and have cleaner, better looking vehicles . . . operates as QUIET as a vacuum cleaner!

Choldun
**10th ANNIVERSARY
SPECIALS**

... for limited time only

FREE!

**"POWER-JET"
STEAM CLEANER**
Plus **FREE "POWER-VAC"
VACUUM CLEANER**



Model 120-RW



Model 810-PV1 1/2

Send for free catalog and details on this unprecedented, tremendous offer! Find out "how" a Choldun **TRUCKWASHER**, sizes from 30' to 65', will help eliminate your fleet-washing problems. And, take advantage of our 10th Anniversary Special!

Note: As an alternate choice, you may select FREE "Auto-Magic" Carwasher, CW-400-21, instead of FREE Steam Cleaner and Vacuum Cleaner.

The CHOLDUN MANUFACTURING CORP.

331 East St., New Haven, Conn.

Please send **TRUCKWASHER** catalog and 10th Anniversary details.

Name _____

Company _____

Street _____

City & State _____

STUDEBAKER SPECIALIZED VEHICLES LOWER FLEET TRANSPORTATION COSTS THREE WAYS

Here's why The Lark, already hailed the most practical dimension in motoring, and Studebaker "Haul of Fame" Trucks, famed for ruggedness and reliability, can help fleet owners keep their costs low. ➤ **LOWERS INITIAL COST.** A fleet of Studebaker vehicles saves money right from the start. The Lark offers every feature of a conventional sized car, full seating for six adults, yet costs less. The ½ ton Scotsman, in either pickup or chassis and cab version for special bodies, has the lowest price tag of any truck of its size in America. ➤ **LOWERS OPERATING COST.** All Studebaker vehicles are designed for economy-plus performance. Both The Lark and Scotsman engines are improved versions of powerplants which recently set NASCAR economy records. ➤ **LOWERS MAINTENANCE COST.** Rugged design keynotes every vehicle that bears the name Studebaker. All components in engine compartments are simplified and easily accessible, making repairs faster—and cheaper. The Lark's bolt-on grille assembly and fenders reduce the cost of repairs to sheet metal in case of accident.

THE **LARK** BY STUDEBAKER



STUDEBAKER "HAUL OF FAME" TRUCKS. Scotsman ½ ton pickup has widest pickup area of any truck its size. Other trucks available for heavy hauling and specialized uses.

THE LARK 2- AND 4-DOOR SEDANS. Excellent company cars. Take up less room because useless overhang has been eliminated. Saves almost 18 square feet of valuable garage and parking space per vehicle. Other Lark models include Station Wagon with attachable advertising panels, a Hardtop and the Econ-O-Miler, severe service vehicle.

Without obligating myself, I would like to know more about the new dimension in fleet transportation.

MR. A. E. FITZPATRICK, Manager—Fleet Sales
STUDEBAKER-PACKARD CORP./South Bend 27, Indiana

NAME _____

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CITY _____

ZONE _____

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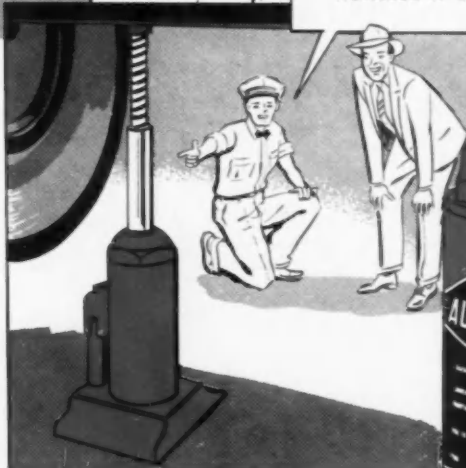
HOW CAN WE SPEED UP ROADSIDE WHEEL CHANGES?



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OUR TRUCKS WITH AUSCO
HYDRAULIC HAND JACKS
LIKE MINE...

When the lift is extra high,
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handles it easily!

You save TWICE with
AUSCO Hydraulic
Hand Jacks. Fast, sure,
easy lifting reduces
highway down-time
and AUSCO'S rugged
dependability means
greater jack value!



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Hand Jacks are
available in 20,
12, 8, 5, 3 and
1½ ton Standard
Range models,
12, 8, 5 and 3-ton
Hi-Range models.



AUSCO Jacks

AUTO SPECIALTIES MFG. CO., INC. St. Joseph, Michigan

Other plants in Benton Harbor and Hartford, Mich. and Windsor, Ont., Can.

See Your
Ausco Jobber
now!



Ausco...
Quality Jacks
for every
service need!



Bipod
Bumper
Jacks



One End Lift
Hydraulic and
Mechanical

Truck
Transmission
Handlers



Hydraulic Service Jacks



Garage Horses

NEW DIAMOND T MODEL 838

WITH V-8 POWER • 235 HORSEPOWER AT GOVERNED SPEED



Diamond T Six-Wheel Model 838 with SLHD tandem

NEW, from Diamond T—a lightweight power-house for both highway and off-highway service. Weight of standard chassis with single rear axle is approximately 9000 pounds, of which only 3600 pounds is at the rear.

Long-Life V-8 Features

Replaceable wet sleeve cylinders, high velocity cooling, sodium-filled valves, valves and seat inserts stellite-faced, oil temperature stabilizer. These and other Diamond T features mean less maintenance, longer engine life and lower truck cost over the long haul. Performance and power output are outstanding.

You benefit also from Diamond T's custom-building, with options to make *your truck fit your job precisely*. The right transmission, the right rear axle or tandem assure lower operating costs—and with Diamond T you get just what you need.

Model 838 is standard with 5-speed transmission and 2-speed rear axle with a total of 10 speeds. G.V.W. of 30,000 pounds is increased to 36,000 with oversize rear axles. Six-wheelers are available from 41,000 to 60,000 pounds G.V.W. Gross Combination Weight rating is 65,000 pounds for two-axle tractors, up to 78,000 pounds for six-wheelers.

By any standard of comparison Model 838 offers better value, greater reliability, and longer life than other vehicles in this field. See your Diamond T dealer.

Condensed Specifications Diamond T Model 838

Front Axle: Timken drop-forged I beam, rated capacity 9000 lbs. • **Engine:** V-8, DT8-235. • **Clutch:** 15" dry-plate. • **Transmission:** Fuller 5-speed, helical gears. • **Rear Axle:** Eaton 2-speed, providing total of 10 reductions. • **Frame:** 10-inch side rails, of heat treated alloy steel. • **Tandem Axles:** Optional, 10 models. • **Other Options:** Oversize Axles, Auxiliary transmission, 8-speed transmission, light-weight aluminum elements, etc. • **Chassis Weight:** Standard Chassis, 9000 lbs. • **Gross Combination Weight Rating:** 65,000 lbs., 78,000 lbs. with optional tandem axles.

DIAMOND T TRUCKS

Established 1905



**The Diamond
is for Quality**